HOME COMPUTING WEEKLY
AN ARGUS SPECIALIST PUBLICATION
August 6-12 1985 No 124 50p

Cash boost for school software

The Government is giving schools £3.5m to spend on educational software over the next three years. It is the first time that money has been specifically allocated for software purchase by schools. Local education authorities will be required to match the government funding pound for pound, doubling the money available to £7m.

However, the Government seems to be adopting a "swings and roundabouts" policy as the total expenditure on school computing is to be cut back.

The Microelectronics Programme, which was set up in 1980 and ends next March 1986, has received £23m but the Microelectronics Support Unit which will be set up to advise and help LEAs will receive only £11m over the next five years.

John Butcher MP, the junior industry minister stated that he hoped the new allocation for software would "encourage educational software houses and educational publishers to consider further investment to preserve the leading edge that Britain has built up in this field."

The response to the government announcement from the educational software houses was positive.

Peter Lever at Applied Systems Knowledge said: "I think it's a tremendous boost for the software houses and schools and making the LEAs match the money available should substantially increase the software available in schools."

Peter added, "I do think that the overall cutback in spending gives some cause for concern."

Craig Thatcher at education al distributor Proteus stated: "The cash for software is quite an improvement – it is better than nothing. I think it is a positive step in the right direction."

The money will be available almost immediately. The Department of Trade and Industry has allocated £500,000 for the rest of this financial year. A further £2m will be up for grabs the following year and £1m during 1987-88.

Funding for the Microelectronics Support Unit will come from the Department of Education and Science, which was also responsible for the MEP, a project to promote the use of computers in schools. Over the past four years the number of micros used in schools has risen steadily. Each secondary school now has an average of 10 computers.

A spokesman for the DES said: "We feel the MEP has helped to stimulate an interest among schools in computers but the programme has now run its course."

"The new Microelectronics Support Unit will be a central source of information to allow LEAs to continue to use computers in a creative way."

Pi-maniacs find gift horse

The Golden Sundial of Pi has finally been claimed after three years.

The prize was offered to the first player to crack the game Pimania which was released in 1982 by Automata.

Mel, Sue, Christian and Lizi

In order to claim the prize, the winners, Sue Cooper and Lizi Newman, both from Ilkley Yorkshire, had to meet at the mouth of the Chalk Horse, Hindover Hill, Sussex at 12 noon on 22 July. They were there this year and are now the proud owners of the gold and jewel encrusted sundial.

The adventure game was designed and programmed by Christian Penfold and Mel Croucher and was a maze of clues and red herrings. They were told of one player who travelled to Bethlehem on Christmas day, another who went to Stonehenge on Midsummer's day and a third who tried to book a seat on the Space Shuttle!

One lady even sited the game as a cause of her divorce. So that frustrated players can find the answer, Mel Croucher will be selling books with the solution for the puzzles at £1 each. He can be contacted at 29 Great Southsea St, Portsmouth PO5 3BY.

25,000 attend

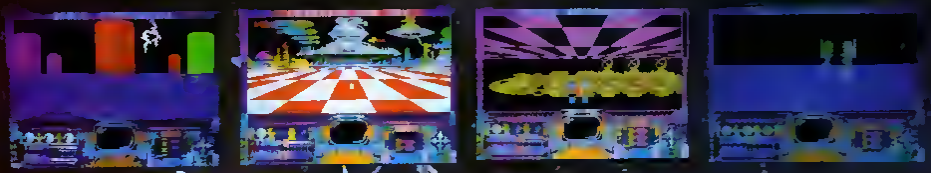
THE THIRD OFFICIAL ACORN USER EXHIBITION

Full report and product guide inside p.8

Hustle!

100 pool games to be won from bubble bus software

3 games for C16 p.34
More dungeon drama in Ventures p.21
Mince words with your Spectrum p.17
Meet Cuthbert in our Time Capsule
Play your Amstrad cards right p.24



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HOME COMPUTING WEEKLY

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No. 124

Soopbox

Smart reader that Mike Rickett who noticed the double review of Chopper Squad — Soapbox issue 122, and the very different ratings. Mine was the higher of the two, and I well remember the reasons for my decision.

Back then, when the game was reviewed there were very few games available for the CPC464, the standard was quite low in comparison to Spectrum games and they were all £8.95, about £3 higher than the going rate for the Sinclair, as a result of Amsoft's pricing policy.

I deliberately gave Chopper Squad a higher rating simply because it was £5.95 for a reasonable game, feeling that the saving in money made up for the lack of sophistication.

It would be interesting to know how important value for money is to our readers. Should reviewers reflect cost in their ratings? Why not let us know?

Now, the scene has changed. Programs are becoming so well presented and complex that I'm having to be much tougher with "Flipped" ratings. And, interestingly, Spectrum prices have crept up to the £8.95 level instead of CPC464 prices dropping. Ah well... you can't win 'em all.

D.M.

SPECIAL FEATURES

COMMODORE

BBC

AMSTRAD

SPECTRUM

REGULARS

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No 1 Golden Square London W1R 3AB 01 437 0626

Home Computing Weekly is published on Tuesdays. Subscriptions and back issues: Infonet Ltd, 10-13 Times House, 179 Marlowes, Hemel Hempstead, Herts HP1 1BB, 0442 48432. Trade distribution: Argus Press Sales and Distribution Ltd, 12-14 Paul Street, London EC2A 4JS, 01-247 8233. Printed by Alabaster Passmore & Sons Ltd, of London and Maidstone, Kent. Design and origination: Argus Design Ltd, Circus House, 26 Little Portland Street, London W1N 5AF.

NEWS

Wordstar on Amstrad

Wordstar the "industry standard" word processing program that is used in thousands of companies throughout the world will soon be available in a special version for Amstrad machines

Called Pocket Wordstar the program will cost £149 and it aims to bridge the gap between the office and home users of computer systems The program will be sold exclusively through Cumana, until now a supplier of peripherals for a number of popular home systems

Despite the difference in name Robin Oliver, Managing Director of MicroPro the originators, claims that the program will have "full features and functions" It will be interesting to note how well the system does against Amsoft's Amsword which is about one third of the price

MicroPro, Haygarth Hse, 28/31 High St, Wimbledon Village, London SW19 5BY

Einstein Hacking encouraged?

Kuma has recently issued a new communications package for the Tatung Einstein called "Hackers Delight". We cannot decide if the title is a joke or just in bad taste.

The package allows communication with most types of information systems including Prestel, Micronet and Telecom Gold. The screen display can be either 40 or 80 columns wide and all the protocols can be set with the package "On line".

Jon Day of Kuma claims, "It is an invaluable tool to anyone who wants to get the most out of communications on the Einstein. It is a versatile, easy to use, professional package, just what every user needs". Such a pity that it has given it a silly and misleading name!

Kuma, Unit 12, Horseshoe Park, Pangbourne, Berks RG8 7JW..

Enterprising releoses

Those Enterprise owners who have a yearning to see what people are doing with their machines in foreign climes will soon be able to play games from Europe

Entersoft are to release a game from Paris called Devil's Lair which is both an adventure game and a graphics package all for £7 95

From Hungary there are three new games to come — Sprite Animator, Mirror World and Eggs of Death

Finally, from Germany comes a BASIC tutor series which will have you programming like a native within hours

Perhaps the next release will be an Esperanto Tutor so that you can communicate with users throughout the globe

Enterprise, 31-37 Hoxton St London N1 6NJ

It's here Fans

With the current rise in the ownership of personal stereos, I don't suppose that I should have been surprised to see a Personal Fan advertised

This unit is described as the Walk Fan and is produced by the same company that sell the whistling key ring The fan is able to run off batteries and from a six volt adaptor.

The fan has two speeds, a torch or reading light, an odouriser (what on earth could that be?), a make-up mirror and a digital clock/calendar In all its a walking marvel — just think 10 years ago you would have required a hand bag full of goodies to do all that — but there's technology for you!

If you feel the urgent desire to cool yourself down the unit costs £14 95 You might even find that it will work as a replacement for the cold milk carton on top of your ZX80 power supply (Historical note frozen cartons of water were placed upon power supplies which used to overheat dangerously)

Micro-Dealer, 29 Burrowfield Welwyn Garden City, Herts AL7 4ES

Hand held fan — a load of cold air?

Go Public

Psst! Want to know where you can get some free programs? Thousands of programs are in the public domain and now 69 of them have been brought together on disc. Ranging from games to utilities the programs can be obtained for free after paying a copying charge.

Those who have explored the realms of public domain software have been frustrated by the lack of good documentation. Useful programs could be forgotten because the only way to find out what a program did was to work it out for yourself. The Free Software Handbook, whose authors selected the programs, explains in detail how to use them.

The book plus programs on disc which are compatible with most home micros are priced £39.95 (69 progs 100K). The price can be cut even further if the home user supplies three discs to the distributor. These should be formatted both sides using VENDOR FORMAT and brings the price down to £27.95.

David Rubin Assoc, 1 Cannbourne, Westonsub Edge, Chipping Camden, Glos, GL5 6QH.

At the show

As promised last week, the cartoon character that Virgin are currently writing a game about is — Dan Dare. Yes, the Eagle comic hero lives and will soon be jumping all around the screen of your local micro.

Another company with a great deal to show are Amstrad. They will have all their current models, the CPC 464 and CPC 664, on the stand but added to this will be the CPC 6128 and a mystery micro due to be announced on 20th August.

This machine is likely to be a 16 bit, 68000 based, business machine with about 128K of memory. Further details are sketchy at the moment but it looks as though the machine will be a direct competitor with the Atari 520ST and the Commodore Amiga. The price is obviously a vital factor in any computer's success and details are not yet available — rumour suggests however that it will have a £150 price advantage over its competitors.

It looks as though Alan Sugar might also depart from his packaging policy and offer this unit as a stand-alone computer system.

Please remember that Home Computing Weekly will be at the show and we look forward to meeting as many of you as possible. There is even a prize for those who can identify Ron Complex!

Drive away a bargain

Compumart of Loughborough has announced its disc drive deal for the Atari 130XE.

The package comprises the computer and the Atari 1050 drive unit with 10 free blank discs all for £299.95. This is just £130 above the cost of the machine itself and seems to represent good value.

The company has also announced that its blank discs will be available to all computer users at £9.95 for 10. The discs are single sided, doubly density standard and come with a free storage case for those ordering over 50 of them.

Compumart, 71 Gracedieu Rd, Loughborough, Leics.

Atari drive in

Utter Confuzion

Our Confuzion competition was a big hit, or should I say bang, judging from the number of entries that we have had.

The winner of the snake jigsaw is Allan Mayers of Cumbran and he is welcome to it. The craftsman made puzzle is very complex and we have been trying to prevent the pieces being misplaced whilst it was in the office. Perhaps he will write and tell us how he got on with it after a week or two.

The runners up will each receive a snake cube with the problem of making a complete snake that eats it own tail. We are still debating as to whether we should keep the solution leaflets or let them out!

The thirty lucky winners are: Brian Byrne, Campbeltown, W J Gilks Chelmsford, Peter Bond, New Southgate, David Blackledge, Bolton, S Chua, Birmingham, Neil Fairless, Stockton-on-Tees, David Parish, West Wickham, W Chalk, London, Richard Marsden, Wakefield, Valerie Hill, Southampton, Mark Price, Weybridge, H Galloway, Weston-super-Mare, Ron Todd, Southampton, Julia Boswell, Cardiff, Jonathan Leach, Sidmouth, E A Cook, Cwmbran, Jason Humphreys, Nottingham, D J Blundell, Southampton, E V Browning, Cardiff, Ian Turner, Southwell, John Thompson, Tidworth, S J Jolley, Lydd, James Preston, Carlisle, Paulcen Joyce, Northolt, Richard Heap, Earl Shilton, William Lawrie, Perth, S H Gamble, Reading, D E Nicholls, Holborn, Raymond Tunstall, Darlington, M Payne, Wivelscombe.

For those who still want to find the path to destruction there are two routes that give a time of 32 seconds. Keep looking!

Software Update

Autumn approaches and the software houses are gearing up for the mass return to the micros after the summer hols by announcing a torrent of new releases Activision and Ariolasoft last week unveiled their Autumn catalogues as did Shards with six new titles for BBC users

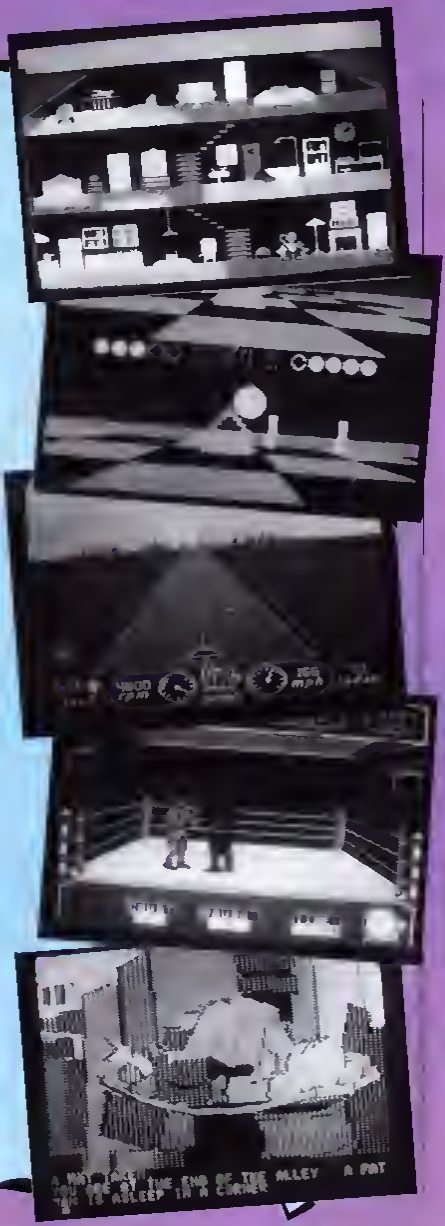
Activision have high hopes for Barry McGuigan World Championship Boxing and the diminutive Irishman has become the latest sportsman to officially endorse a computer game

Two titles in Activision's new range were programmed by Lucas Film Games, a branch of George "Star Wars" Lucas's film production company. Not surprisingly they are both concerned with alien worlds. Rescue on Fractulus being a mercy dash to save stranded spaceman on a remote planet while Ballblazer is a futuristic high speed ball game played against droids

Shards release two adventures in September entitled Woodbury End and The Lost City Woodbury End is set in a strange English village where the village folk are none too friendly They do say over at Shards that "it will be hailed as the best adventure yet for the Electron and possibly for the BBC". Well, they would wouldn't they

Meanwhile, here in conversions corner we can inform you that Mastertronix the budget software House has converted four titles from its 80 strong range for the Amstrad. The titles are Chiller, which has sold over 150,000 copies in other versions, Finders Keepers, Locomotion and Nonterraqueous, a game with over 1,000 screens Many more Mastertronic's titles are expected to be available for the Amstrad in the near future

Title	Machine	Price	Publisher
Finders Keepers	Amstrad	£1 99	Mastertronic
Chiller	Amstrad	£1 99	Mastertronic
Locomotion	Amstrad	£1 99	Mastertronic
Nonterraqueous	Amstrad	£1 99	Mastertronic
Boffin	BBC/Electron	£9 95	Addictive
Galilee	BBC/Electron	£6 95	Shards
Fun Academy	BBC	£14 95(disc)	Shards
Woodbury End	BBC/Electron	£7 95	Shards
The Lost City	BBC/Electron	£7 95	Shards
Operation Safras	BBC/Electron	£7 95	Shards
Jericho Road	BBC/Electron	£6 95	Shards
Skyfox	C64	£9 95	Ariolasoft
Pinball Construction Set	C64, Atari	£14 95(disc)	Ariolasoft
Adventure Construction Set	C64	£14 95(disc)	Ariolasoft
Racing Destruction Set	C64	£14 95(disc)	Ariolasoft
7 Cities of Gold	C64, Atari	£14 95(disc)	Ariolasoft
Spelunker	C64	£9 95	Ariolasoft
Axis Assassin	C64, Atari	£7 95 £9 95(disc)	Ariolasoft
D-Bug	C64, Atari	£7 95 £9 95(disc)	Ariolasoft
Wizzard	C64	£9 95 £12 95(disc)	Ariolasoft
Paperchip	C64, Atari	£59 95(disc)	Ariolasoft
New Consultant	C64, Atari	£59 95(disc)	Ariolasoft
Homepak	C64, Atari	£39 95(disc)	Ariolasoft
Realm of Impossibility	Spec, Amstrd Atari	£8 95 £9 95	Ariolasoft
Hard Hat Mack	Spectrum	£8 95	Ariolasoft
Archon	Amstrad	£10 95	Ariolasoft
One On One	Amstrad	£8 95	Ariolasoft
Barry McGuigan World Championship Boxing	C64	£9 99	Activision
Ballblazer	C64, Atari	£14 99 £19 99(disc)	Activision
Rescue On Fractalus	C64, Amstrad, Atari	£9 99 £14 99(disc)	Activision
Somebody's in my Computer	C64 Amstrad	£14 99(disc)	Activision



HUSTLER

bubble bus software

Give yourself a break and enter this weeks competition to win one of a hundred computer pool games

It's three o'clock in the morning, everyone in the pool hall is gathered round the table watching your every move. Pools of sweat break out on your forehead, your heart is pumping and your nerves are stretched beyond the limit — you've just bet your micro and all your software on potting the eight ball.

As you pull back the cue you suddenly wake up. Of course it was all a dream but this weeks competition with over £600 worth of prizes is definitely real and gives you the chance to pot Hustler, the six in one pool game from Bubble Bus. And if you lost your shirt betting on a dream game the night before you can cheer yourself up by becoming one of six winners of a Bubble Bus T-shirt.

Hustler incorporates six variations of pool for both one and two players and can be played with either joystick or keys on the C16, C64, MSX, Spectrum and Einstein. For those fancy shots you can apply spin to the cue ball. By hitting the appropriate function key you can introduce top, back and side spin.

All you have to do to get the green baize on your home screen is to answer the six questions below and then follow the instructions in the How to enter section. Bubble Bus T-shirts will go to the first six lucky winners drawn out of the hat.

How to enter

Answer the six questions and take the first letter from the first word of each answer. The six letters make up an anagram of a word closely connected with pool. When you have worked out what the word is write it in the space provided on the entry coupon and post to Hustler Competition, Home Computing Weekly, No 1 Golden Square, London W1R 3AB to arrive by first post on Friday 24 August 1985.

Please write clearly the six letter word you have found on the back of the envelope, and remember to circle the machine you use on the coupon.

1. What is found in the white cliffs of Dover and in pool players waistcoats?
2. Who played the star role in the film, "The Hustler"?
3. What substance do pool players from Superman's home planet fear?
4. What is both a famous cricket ground and a mis shapen pool ball?
5. On which river is The Pool of London?
6. Name a football team found in Liverpool?

The rules

Entries will not be accepted from employees of Bubble Bus Software, Argus Specialist Publications and Alabaster Passmore & Sons, their agents or distributors.

The How to enter section forms part of the rules.

The editor's decision is final and no correspondence can be entered into.

Hustler Competition

Entry Coupon

Name _____

Address _____

_____

_____

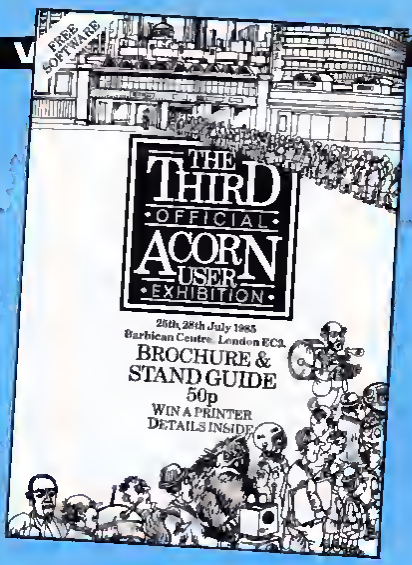
_____ **post code** _____

The word is _____

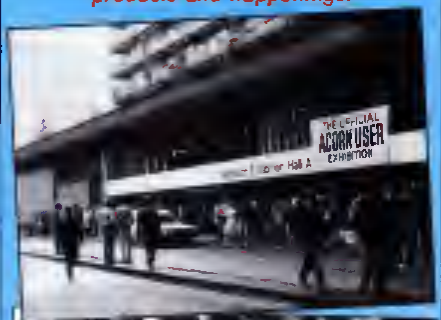
Please ring your machine MSX Spectrum C64 C16 Einstein

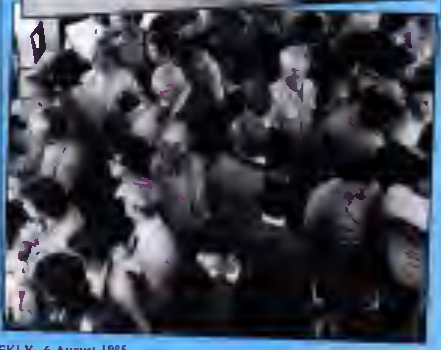
Complete clearly and fully — if you are a winner, this will become your address label. Post to: Hustler Competition, Home Computing Weekly, No 1 Golden Square, London W1R 3AB. Closing date: first post Friday 24 August 1985.

ACORN USER SHOW



There were people, products and perspiration galore at the third Acorn User Show at the Barbican last week. Here's a run down of all the notable products and happenings.





It was quite a week for Acorn Doubts about the company's future were dispelled mid-week by Olivetti's cash injection of £4m and over the weekend nearly 25,000 showed their confidence in the hardware by voting with their feet at the Third Acorn Users Show

Pessimists who had missed the news of the Olivetti rescue could have been forgiven for thinking the queues outside the Barbican were waiting to pay their last respects but in fact they were waiting to pay cash for a whole host of add-ons and peripherals for Acorn and BBC machines

Tim Collins, managing director of Computer Market Place which organised the show, told HCW that business was brisk, "Most exhibitors turned up with what they thought would be sufficient stocks for the four days and many of them found they had to re stock as many as four times "

With so many dealers in such a confined space it was only natural that business should take on a competitive edge and many visitors took advantage of on-the spot reductions on disc drives and discs

There were no major launches by Acorn itself although the whisper is that a memory add-on is waiting in the wings to be unveiled at the PCW show in September

One visitor with an extra special interest in the show was Brian Long who had been appointed managing director of Acorn just three days before

"What I can say at this early stage is that I certainly don't regret the decision," said Brian "The financial restructuring package has allowed us to step away from the brink and I want to assure the home user that he doesn't have to worry Acorn will not be turning away from the home market "

Brian is no stranger to being called in to salvage crisis hit companies but said he didn't describe himself as a "troubleshooter".

"I've never been involved in the computer industry before but I've had a good deal of experience in helping out companies in trouble In Acorn's case I'm happy to be coming in at this time when the butchering has been done because what I really enjoy is the fine tuning that is necessary now "

Robots everywhere

There were a number of robots at the show and this appears to be a major growth area for the BBC market

The smallest units were being displayed by Commotion who have purchased the full range of Movit robots from the now defunct Prism These are constructions of clear plastic and wire that have more similarities to the construction kits of your youth than to electronics of today

They can be adapted, however, to run off the BBC and other home computers and the company were selling the excellent volume by Richard Pawson, The Robot Book, which shows how to adapt and program these machines

Timothy Coote, of Commotion, also claimed that the company could supply about 70 per cent of the parts required to build the projects in the book so contact him for further details

Pilot One were showing several control systems including the robot crane and the computer controlled model railway

The Computer Tram Driver can be used to control either Lego or Fisher-Technic systems, the same ones that are available from Commotion, and the kit comprises the interface, three light beam kits, the software package and manual for £45 42

Another robot of note had the interesting name Ogre !

This is no toy though, the standard model costing £276 and the top flight Supreme model over £400 The interface fits the eight bit user port and the arm has three axes of movement plus a gripper

The display model spent most of its time writing on a large sheet of paper Perhaps the disc drive manufacturers should have had one to re-write their price cards — they seemed to change every two hours!

Commotion 241 Green St Enfield EN3 7SJ

Pilot One, 22 Campbell Rd, Bedford MK40 3DD

I W Staines, Unit 2, Roding Trading Est, London Rd, Barking, Essex IG11 8BU

More memory

Aries Computers announced that their long awaited Aries B32 Multi-Role Expansion system for the BBC B+ will be available at the end of August The system has been 18 months in development and one of the inventors told HCW that the patent will be through very shortly and added that this may be worrying for manufacturers who have rushed similar products onto the market

The Aries B32 is the successor to the Aries B20 The new expansion board features 32K of RAM and a 16K ROM socket The B32 gives 20K of shadow screen RAM and 12K of sideways RAM or the user can reconfigure the RAM as 18K of shadow RAM and 16K of sideways RAM, or use all 32K as sideways RAM

The Aries B32 is priced at £92

Aries Computers Cambridge Science Park Milton Rd Cambridge CB4 4BH

Electron Users Toolkits

There weren't many products for Electron users being launched or shown. One of the most outstanding of the few was the Advanced Dise Toolkit from ACP.

This allows the users of the ADFS plug in the Plus 3 unit to have all the facilities of the standard DFS and a few others too. It has the usual editors for memory and disc and over 30 commands in total.

The most surprising feature is that it has the ability to run in Electron's and BBC's despite vast differences in the DFS structure

The company also provide a number of other products for both the DFS and ADFS user including the Advanced Electron DFS, the Advanced Sideways RAM and the Advanced ROM adaptor. Are none of their products backward?

ACP, 6 Ave Hse, Chobham, Surrey.

Memory Matters

A new entry to the extra memory stakes was launched at the show by Permanent Memory Systems The 64K RAM module for the BBC and BBC B+ is an external add-on that requires no tinkering with your BBC's innards — it simply plugs into the 1MHz bus.

The pocket sized unit which measures just 90mm x 150mm x 30mm is constructed using low power circuitry preventing power overload problems Included in the retail price are two pieces of system software and several utilities including a Ram Operating System and a printer buffer

The Ram Module including ROS, printer buffer, utilities and instructions manual, is available priced £151.75.

Permanent Memory Systems, 39 Mount Cameron Dr, St Leonards, East Kilbride, C74 2ES

Multi tasking BASIC

One of the products which we hope to review very soon in HCW is the Multi-BASIC from CMC Software

The product allows you to have up to eight BASIC background tasks running in your machine at any one time This is done by adding extra commands to the standard BASIC so that you can use certain parts of the program every so many seconds or after particular criteria are fulfilled One example would be to have a clock display on screen whilst another part of the program is running

In all the system looks rather like the type of interrupt programing that is available on the standard Amstrad but that is no bad thing We look forward to a full review soon

Multi-BASIC costs £39 95

CMS Soft, Unit 18, Ind Est Chelmsford Rd, Great Dunmow, Essex CM6 1XG

Watford's newest

Watford Electronics proved to be one of the busiest stands A big attraction was its new modem called (perhaps with eyes towards the French market?) Le Modem The pad is completely automatic and there are no knobs or switches to worry about

The modem is controlled by a 16K ROM and is capable of 300/300, 1200/75 UK and Bell (America) operation

Price £102 35

Watford was also showing its new video digitiser which allows you to attach a video camera to your BBC and have the vision displayed in eight levels of grey on the monitor.

Although the unit will operate in Modes 0, 1 and 2 we felt that the Mode 2 display was by far the best when viewed on a green or amber screen Colour displays of mode 2 scans left people looking very flushed indeed

With a scan time of just 1 6 seconds the unit will be of great interest to the visual artists amongst you at its price of £102 35

Watford Electronics, 250 High St Watford, WD1 2AN

Exams loom large

LCL were showing their new Mega maths Package for the BBC machines

The package comprises some 24 programs that aim to combine to produce a full revision programme for A level maths students There are far too many topics to list here but the company were doing brisk business at £24 a pack

SOFTWARE

Red Arrows

Getting bored with your run of the mill flight simulator? Tired of burying your jumbo in the runway? If these comments apply to you then it's about time that you tried this flight simulator with a difference. Just slip into the cockpit of your British Aerospace Hawk and take your place alongside the famous Red Arrows display team.

As you cannot be expected to fly in formation with the Red Arrows without tuition the practice option is extensive. Apart from flying solo you are given the option of practising any of the four display manoeuvres. Should this still prove difficult the computer can display messages telling you when to increase/decrease thrust, roll left/right, and climb or dive. It will even steer the plane thus allowing you to concentrate on controlling the thrust, or vice versa.

The screen display is split into halves. The top window is the cockpit view, through this you can observe the rest of the team vanishing into the distance. If you are quick off the mark at the beginning of the manoeuvre you can even fly up someone's tail end!

The bottom window displays instruments and also a squiggly line drawn in red, this represents the manoeuvre to be flown. Slowly moving around this red line is a white one, this is your flight path. I used it to show me which corners I could cut in order to catch up with the rest of the team!

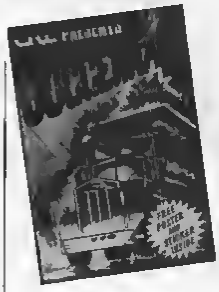
This is one of the best flight simulators to be released in a long time. Red eight to red leader... red eight to red leader, wait for me!!! **J.R.**

Price: £8.95 tape, £12.95 disc

Publisher: Database Software

Address: Europa Hs, 68 Chester Rd, Hazel Gr, Stockport SK7 5NY

AMSTRAD



Juggernout

Had I not persevered with this I might have dismissed it as a not too great simulation. As I soon found out it's a highly addictive game. All modes of the game are icon driven, that is, you must move a cursor to the picture you require.

Having set up the program to drive joysticks, you have the chance to practice driving a variable size articulated lorry along the straight, round bends and islands, and into parking bays which are all shown in plan view. The lorry itself is shown as a not-too-successful wire frame drawing. It may not be realistic to look at, but it certainly seems to handle like a truck... boy is it difficult! Plenty of practice is needed!

A head-up display shows gears, fuel, speed and load. Once start is selected, you have access to a large map of the town through which you must go to pick up a specified load — you're pretty low on fuel too, so a garage is needed. If you find a 'phone box, however, you can stop, put in a call, and a scanner shows you where to find what you need.

What it doesn't tell you is that you have to reverse your rig to get anything, and again the handling is realistic. Very, very challenging. I've been at it for hours and haven't succeeded in getting through a full load. But the bug has bitten me! Hurray for a new concept, well executed. **D.M.**

Price: £7.95

Publisher: CRL

Address: 9 Kings Yd, Carpenters Rd, London E15 2HD

SPECTRUM

Danger Mouse in Double Trouble

So many of the computer games released at present are spin offs from other mediums. We have the game of the TV programme, the game of the film and the game of the pop group, and so on. Danger Mouse, which not only is a hit with the kiddies but with a large following of adults too, has now received the computerisation treatment courtesy of Creative Sparks.

On reading the inlay card you are treated to a mini-episode of Danger Mouse which functions as the introduction to the game. The program itself consists of three separate games. Let's deal with each in turn. Game one places you in a sort of "dodge the characters scrolling towards you". These characters I believe all have Danger Mouse connections, one is Baron Greenback's crow friend (so my younger sister informed me).

Once you have got through this you come across a game based in the jungle where you must cross the swamps and climb to the top of a large tree. A very dull game with the only compensation being the finely-animated Danger Mouse and Penfold characters. The final game is the best of the three with you having to extinguish a series of yellow lights by hitting certain buttons in the correct sequence.

The games are all controlled by joystick and there are the now mandatory high score and level options. However, I have some difficulty in targeting who will buy this game. The graphics are excellent, the cartoon characters are depicted very well, but the game design is extremely poor and has little addictiveness. A few parents will buy the game for their children, but Creative Sparks cannot guarantee sales of many more, even when a poster is offered as well. **C.G.**

Price: £7.95

Publisher: Creative Sparks

Address: Thomson Hs, 296 Farnborough Rd, Farnborough Hants

AMSTRAD

Beatcha

Enterprise appear to be relaxing their policy of only choosing conversions of well-known programs. This appears to be a new game and utilises the Enterprises's good graphics reasonably well.

The game has a scholastic setting. You are a pupil at Qange Hill (sic) and are attempting to avoid the teachers for what reason we do not know. You must move through the maze of classrooms trying to collect all the keys to the classrooms. Once you have all the keys you can leave school through the main exit. I was a little surprised to note that I started the game with the grand total of 26 lives plus I could add an extra life for every key collected. However, as you play the game you appreciate that you are bound to be caught a number of times.

Your score is based on a variety of factors, the number of keys collected, the number of lives left, the number of moves made and the number of times that you fire your lone weapon, a teacher stunner. This weapon is expensive costing a penalty of 250 points for each firing made.

The game is quite an enjoyable one though hardly original. It has similarities to most "maze of rooms" games. One thing that did spoil the game a fraction was occasionally when you were in a room with a large number of teachers, you became trapped. There's nothing wrong with this, but instead of the program realising this and killing you off, it waits for you to press the Quit key.

C.G.

Price: £7.95

Publisher: Enterprise Ltd

Address: 31 Hoxton St, London, N1

Buck Rogers

This is a translation of a game originally released by US Gold for the C64 and as such is a pretty faithful copy. In it you, as Captain Buck Rogers, must fly your ship through a series of screens avoiding the inevitable opponents and other obstacles.

On the first level you have to fly your craft through a specified number of electrified gates. The next level has the same gates and long-legged bouncing space monsters. Your objective on this level can be made up of a combination of flying through the gates and shooting down the aliens.

The third level adds another dimension in the form of alien space-craft. Again shooting these down adds to the number required to get you through to the next level of the game. Beware, the space ships have a nasty way of flying behind you and catching you unaware.

Level four has you flying through space in a single handed attempt at ridding the sky of those ubiquitous aliens. The final phase has you trying to shoot down the mother ship and then it's back to the beginning but the gates are now narrower.

Graphically this is a pretty game but it has nothing spectacular to recommend it. The game is fun to play but presents no new challenge and at £7.95 is over-priced. For anyone who has just bought a computer and wants to build a collection of games this may be of interest, but to dedicated players it may be a bit of a disappointment.

M.W.

Price: £7.95

Publisher: US Gold

Address: Unit 10, The Parkway Ind Centre, Heneage St, Birmingham

That's the Spirit

What do I know about this game? Well — I had trouble with the turbo loader until I cleaned my cassette heads, the "instructions" tell you everything except the object of the game, and they have a printed overlay for the keyboard which won't fit the Spectrum+ and isn't cut out for the Spectrum. The info does tell you about chasing ghosts around New York, and you can see them on the screen, a sort of mini-octopus wearing a shroud, but is this an original idea?

Hailed (by the publishers) as an icon driven graphic adventure, it allows the issue of a very limited number of single word commands by the pressing of one key, hence the overlay. A very nicely programmed New York sky and landscape scrolls in the background whilst you steer your little man, reasonably animated, across the screen. Various objects are there for the taking, and you can examine them by a magnification command. You can also connect them together for use, though after four hours effort I couldn't use any of them because a small ghost kept driving me barmy according to the insanity indicator on the screen.

I just couldn't get anywhere, but that doesn't mean you won't. I suspect that you will either be really challenged, the blurb says the solution takes months, or disgusted by your own ineptitude in getting going, which is what I feel at the moment. Reviewing doesn't give you weeks to ponder puzzles like this!

D.M.

Price: £7.95

Publisher: The Edge

Address: 31 Maiden Ln, Covent Garden, London WC2

★ ★ ★ ★ ★

Flipped

★ ★ ★ ★

Hooked

★ ★ ★

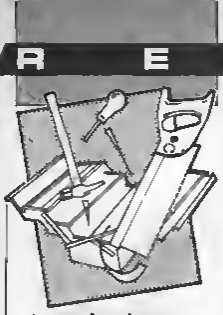
Keen

★ ★

Yawning

★

Comatose



Azimuth Adjustment Program and Head Cleaning Tape

The service manual for the CPC464 recommends the use of a meter and a test tape for setting the alignment of the cassette head azimuth Whilst Amsoft warn of forfeited warranties, and the folly of using "home" tapes, they obviously work — I've proved that myself — and sales seem to indicate the need for them

This one has an on screen picture to indicate the screw to turn, and the single cassette has a long leader which is made from a non-woven head cleaning material Once the program has loaded, a pointer is attached to the small screwdriver supplied and the screw turned until the border changes colour, then back a bit, and the position is marked The same is done going the other way, then the pointer turns to the centre line between the two marks and the job's done

By comparison to the Interceptor Micros package, the screwdriver with this kit isn't a cross point and so slips out of the tiny screw head much more easily, and the cassette body itself slops about in the deck, whereas Interceptor's is a specially made precision job, reducing the chance of poor tape path alignment Similarly, dry tape head cleaning just isn't as good as a little meths on a cotton bud rubbed on the head and pinch wheel

I haven't the equipment to state categorically which of these tapes works the best, but I feel happier using the Interceptor version despite its higher price **D.M.**

Price: £4 99

Publisher: Kildale Ltd

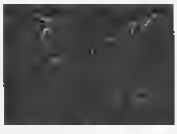
Address: Liddington Ind Est, Leckhampton, Cheltenham GL53 0DL

AMSTRAD

The Rocky Horror Show

Dazed from yet another attempt at the Time Warp I've torn myself away from my Amstrad to write this review I'm sure that many of you have heard of the film, "The Rocky Horror Show", which achieved major cult success in Britain but even more so across the Atlantic

Computer Rentals Limited (CRL) have created a game out of the mayhem of the film, a film that nobody could exactly call unchaotic CRL's program comes out with honours for sticking very closely to the film's plot and style as well as being a most playable game You must collect all the pieces of the De-Medusa machine to enable you to free your loved one (you can choose to be either the man, Brad, or the woman, Janet) from the clutches of Frank 'n Furter, the evil owner of the mansion



The game is one of the graphical room search genre which include Atic Atac, Underworlde and Pyjamarama You should avoid the various characters skulking around most realistically, they will harm you in some way or another The mansion's rooms are detailed well and in keeping with the style of the film, while the music track which can be switched off if so desired roars on It is interesting to note that the soundtrack is far less annoying than many and I tend to enjoy it and leave it on

There is some great attention to detail within the mansion rooms and I have found the game frustratingly difficult to progress in It is interesting to note that the soundtrack is far less annoying than many and I tend to enjoy it and leave it on

It is most definitely a cut above the average game of the film, well worth considering, particularly if you saw and were not offended by the film/stage show **C.G.**

Price: £8 95

Publisher: CRL

Address: CRL House, 9 Kings Yd, Carpenters Rd, London E15 2HD

AMSTRAD

Pole Position

At long last, the official version of Pole Position has appeared for the Spectrum, and "was it worth the wait?" I hear you all ask Well, yes it probably was I have a few minor criticisms of the game, but I still think that It's about the best racing game yet produced for the Spectrum

The controls are simple, just left/right, brake and change gear However, staying on the track and not crashing into everything in sight is a little trickier The graphics are very good — the movement of the track and landscape are very clear and smooth, better than on any of the game's competitors, — and there are virtually no attribute problems

The graphics for the other cars on the track though, are a bit blobbly and move fairly jerkily, and, when you crash, there is a definite pause before the explosion effect appears on screen It would also be nice if there were more than just two gears (Lo/Hi), as this would make the driving a little more challenging

Apart from those flaws the game is enjoyably addictive The pace is sufficiently frantic to keep you interested for a while — this is not a game that will be mastered in 10 minutes — just getting past the qualifying round took me ages Possibly, at £7 95 it is a little expensive bearing in mind how old the arcade game is, but if you're a fan of the game then it's an awful lot cheaper than pouring coins into a slot **C.J.**

Price: £7 95

Publisher: US Gold

Address: Unit 10, Parkway Ind Centre, Heneage St, Birmingham

SPECTRUM

Jigsaw

Computerised versions of traditional games and pastimes are a most popular source of game ideas for programmers. However, it is the first time that I have heard of a program mimicking a jigsaw puzzle.

Vidipix have produced a game for the Dragon 32 and 64 where pictures displayed on the high resolution screen are jumbled up and you, using the joystick-controlled cursor, must re-arrange them just like doing a jigsaw. There are four pre-drawn designs each divided up into 192 separate square pieces. Pressing the fire button on the joystick "picks up" the piece where the cursor is and this piece can then be moved around the whole screen and dropped simply by pressing the fire button again.

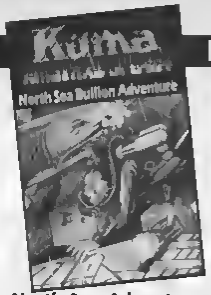
The drawings are quite reasonable given the Dragon's medium resolution graphic limitations, the picture of the Pontiac sports car and the boat cruising through the water being the best of the pictures. In addition, Vidipix gives an extra option to draw and save your own jigsaw screens which can be loaded in and put together at a later date.

This additional option lengthens the life of the program from a few hours finishing the pre-drawn designs to weeks and weeks of fun creating your own jigsaws. There are a couple of reservations on my part. The control of the moving cursor is annoyingly clumsy and I wonder whether people will have trouble starting at a screen display so hard for many hours.

These points apart, Jigsaw makes a pleasant change from the usual run-of-the-mill games and Vidipix should be heartily congratulated at taking a risk with this unusual game, priced very fairly at £3.95. **C.G.**

Price. £3.95
Publisher: Vidipix
Address. 125 Occupation Rd, Corby, Northants NN17 1EG

DRAGON



North Sea Adventure

The "HMS Bearheart" sank somewhere in Arctic waters, it is rumoured that she was carrying a precious cargo. As captain of the salvage tug "Narwal" you have the dangerous, but possibly very rewarding, task of locating the wreck of "HMS Bearheart". This is the scenario for a second rate graphic adventure from the Kuma stable.

It is not the type of adventure which would appeal to the puzzle solvers amongst you. You must find the ship and recover the treasure without running out of fuel, oxygen, or time, it is therefore more of a tactical adventure.

Movement between locations is performed by pressing the cursor keys. A new picture is drawn for each location, drawing isn't exactly slow but it soon becomes a bit of a bore. To enter any of the more traditional commands e.g. Get lamp, you must first press "/" to select the command mode. Having asked all of the appropriate questions you have to return to the movement/picture drawing mode again, this adds to the tedium.

You are informed in the instructions that the adventure doesn't actually have an ending. The user must decide when to finish. This could be the point at which you locate the Bearheart's strong room and recover a bar of gold. The more stout hearted of you may wish to carry on removing bars of gold and then return to port. It all depends upon your stamina, personally I would have never set sail!

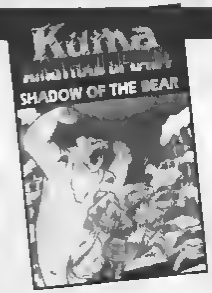
The program may be cheap, but it is still not good value for money. **J.R.**

Price: £3.95

Publisher: Kuma Computers Ltd

Address: 12 Horseshoe Pk, Pangbourne, Berks RG8 7JW

AMSTRAD



Shadow of the Bear

You are the pilot of a spy plane which has crashed whilst on a mission over Russia. To survive you must make your way to the Chinese border avoiding detection by enemy troops and fighting off the effects of the severe cold. Such a theme could provide the basis for a thrilling adventure game. It is such a pity that the Shadow of the Bear does not fit this category.

The adventure consists of two distinct phases. The movement phase, in which you use the cursor keys to indicate the direction in which you wish to move. With each move a picture illustrating your new location is drawn. Waiting for these scenes to be drawn merely adds to the tedium of the game. Whenever you wish to do anything other than move you press the "/" key to enter the command phase of the game. This is the method by which you enter your normal adventure type commands such as Get gun etc.

The adventure is not of the puzzle-solving variety. Your main objective is to keep your energy and heat reserves topped up. Kuma claim that the game offers new challenges each time it is played. Though I can't imagine anyone wanting to play it more than once.

A good example of the poor programming employed is the fact that the keyboard buffer is not flushed when in the command phase. Accidentally keep your hand on the Return key and you could spend the next five minutes watching the program going round and round in circles.

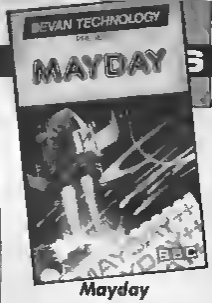
Even at a price of £3.95 this game is still over priced! **J.R.**

Price: £3.95

Publisher: Kuma

Address: 12 Horseshoe Pk Pangbourne, Berks RG8 7JW

AMSTRAD



Mayday

The scenario of this arcade game sounds a bit of fun you, a hero of the spaceways, hear a distress call from the Mars colonists. Plague has struck and supplies must be landed.

Well, that's what they promise. What emerges is a mind-numbingly dire amalgam of Lander, Frogger and Space Invaders that software author James Hughes could probably sold as a magazine listing, on a poor day. Oh sure, there are some obvious touches that ought to be standard on games by now but often aren't (i.e. pause, sound and joystick options) but they're not enough.

The game unfolds as follows: choose your moment to launch from the mothership at the top of the screen, zipping down through an asteroid belt and try to land on one of two pods at the base of the screen. Then, presumably having divested yourself of the lift-saving anti-plague supplies, you must launch skywards and try to avoid swarms of aliens and their bombs before finally docking with the mothership again. Ho hum.

Of course you can shoot your mega rocket launchers at those pesky aliens but, all things considered, it's a lot quicker just to dodge them and move on to another of the "increasingly complex screens". In other words, it's a touch harder to land as the bases mysteriously move into deviously shaped tunnels.

Controls are well enough chosen (caps lock/ctrl for left/right and return for launch/thrust/fire) but the whole package has little more to offer than an average magazine listing. That may well be your cup of tea — but it is worth the money to save an hour or so typing one in? **D.R.**

Price: £7.95
Publisher: Bevan Technology
Address: Gresham Chambers, 14 Lichfield St, Wolverhampton WV1 1DG

BBC

Combat Air Patrol

There are a large number of flight simulators available for all popular home computers, the Dragon 32 included Dragon 32 flight simulators have to beat DACC's excellent 747 simulator and this is what I partly judged Vidipix's CAP against

CAP is essentially a fighting rather than a flying simulation Your aircraft is a Tornado of the RAF and you must attack Russian Mig 25's and avoid their attacking fire Your weaponry consists of 2 SAM ground-to-air missiles and a fast firing cannon You must quickly learn to recognise which aircraft, all displayed rather poorly, are the enemy and which are American F15 Eagles I tended to have a crack at anything that came into view partly for the sheer hell of it and partly to have a go at the anti-conciliatory attitude that is prevalent in computer games (I wasn't a fan of Raid Over Moscow, either) Not that I often got the chance I suppose that the game mirrors a real combat mission in that you do not have aircraft whizzing about constantly firing and attacking but without a moving landscape and with very little else to do (admittedly there are refuelling and landing options) one tends to hanker for a scrap

The program is rather slow working, a large proportion of it is written in BASIC This fact I found out by accidentally pressing the Break key only to find the program stop and display itself I am a little sceptical of any programmer who does not know or use the well-known POKE's to disable the Break key

The program overall is fair, but I did not find it particularly entertaining It has been done before and much better by other companies on the Dragon and other machines. **C.G.**

Price £3 95

Publisher: Vidipix

Address: 125 Occupation Rd, Corby, Northants NN17 1EG

DRAGON

Aabatron

Does your heart sink at the prospect of having to pretend to be space cadet "Shiff Loc", intent on ridding the world of menacing roboids, armed only with your trusty blaster buggy? I know — I felt just the same until I discovered Aabatron

Once past the bizarre name and the yawn-enduced scenario I was hooked on a great zapper Maybe the stirring music accompanying the instructions page helped Maybe the sheer hedonistic pleasure of having options for a joystick/keyboard, speed (up to five from slow to impossible), screens (20, count 'em 20), sound and pause got my fire finger flexing in anticipation Maybe it was just seeing a touch of original thinking here from the same author, M Clemoes, as One Last Game

Imagine this you're a little tank roaming the maze like screen All about you are eight different sorts of aliens to clear with your zapping ability Sort of like Dig Dug, sort of different Then all hell breaks loose — the mutants no longer sit in neat little patterns waiting for their inevitable doom, now they zap to the edges of the screen and zip round and round the border in who-knows-what sort of direction, all the time dropping bombs into the centre You're in the centre, still trying to mop up the sitting targets Only trouble is — some you can kill there, some you can only tackle on the run

So, to battle Out to the edge Zap, zap, zap But don't forget to look both ways else those pesky little mites will just creep up behind you It's a lot of fun fast, furious and novel On later screens where the mutants zap the edge and zip round and also, when you're least expecting it, zip in again to ram you, it gets really exciting

Of course, there are patterns You can hide behind walls and so on, emerging only to obliterate the easy targets, mentally preening as you consider yourself a saviour of humanity It's more fun in the open though and, despite the game's lack of any real complexity or dynamic frontier-smashing programming, it's addictive too

If you've been feeling a little jaded by Beeb games lately and just can't face another drive round yet another Grand Prix circuit or yet another brave assault on a castle, then do try this It's good sometimes to be taken back nearer to our roots **D.R.**

Price: £7 95

Publisher: Bevan Technology

Address. Gresham Chambers, 14 Lichfield St, Wolverhampton WV1 1DG

BBC

One Last Game

Here's a bit of fun that proves the worth of the old adage that the less, the more What could be simpler than to take the three classic space 'n' alien games — Invaders, Galaxians and Defender — and merge them into a refreshingly original mix

Mind you, it's not perfect We're not talking flicker free, fast action, are those sprites?, machine code mega game here, just a well thought out and competently programmed piece of fluff

The game? Okay, your spaceship moves across a scrolling landscape (left to right only) and a strange assortment of aliens line up in formation to your right Instead of the traditional left/right movements across the base of the screen you have to move up and down trying to shoot and avoid them as they peel off from their horizontal formations In all, there are 20 different patterns and weaknesses — a nice touch allows you to choose any screen and the game is joystick compatible

This does give a slight problem, though There's also an option to speed up the game and this is easy enough with keyboard control (shift for extra speed is sufficiently distinct from return for fire) but lateral joystick movement also speeds the game up The first few times this happened to me I couldn't work out why — so remember to keep your stick in a vertical mode and don t waver unless you want to

Extra options for sound and pause are welcome and entry onto the hi-score table shouldn't be too tricky I'm reasonably impressed with this game — it's good basic fun but also is just tricky enough to impel you to mutter "One last game!" as you fire up for yet another wave of those aliens **D.R.**

Price: £7 95

Publisher: Bevan Technology

Address. Gresham Chambers, 14 Lichfield St, Wolverhampton WV1 1DG

BBC

TIME CAPSULE

Deep in the depths of the Cornish countryside is a member of the computer games industry who is seldom given the credit that he is due

He was born in 1974 and was one of the very first to own an Atari Computer game console this side of the Atlantic. He purchased this unit the very same week that electricity was first distributed to houses in the country of Cornwall

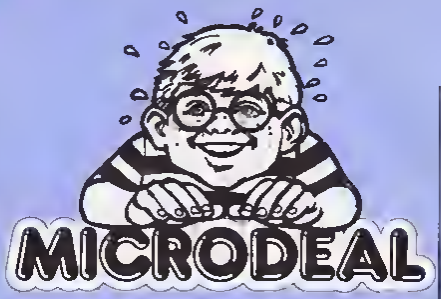
Unlike most members of the industry he wasn't born in a four-walled building of one type or another, but emerged from a Tin Mine near Polzeath His mother was a Cornish Pixie and his father was a dyed-in-the-wool Troglodite This combination of parental genes has given him some of his most amazing powers

We are talking of non-other than Cuthbert, the star of Microdeal's best selling series of games and adventures One characteristic of Cuthbert that may not be too obvious to a casual observer is that he is fully mature now, aged 11, and like Peter Pan he will age and grow no more.

This becomes of vital importance when you realise that Cuthbert spends a great deal of time on his custom-built space ship flying the galaxy developing new ideas for computer entertainment Just imagine the cost of new space ships if he was constantly growing and needing revised cockpit layouts — Horrendous!

Before we went into detail about his personal flying craft we first asked Cuthbert how he came to be in the home computer games industry He admitted that it started with the Atari when he was aged four "My favourite game was Space Invaders and I was really hooked", he said

"After that I bought a Tandy Model 1, which cost me £439 in 1979 It had just 16K of RAM and 4K of ROM — Level 1 BASIC I used it on a B&W portable TV as they were the only colours available " Cuthbert "played around" with the Tandy for a number of weeks and mastered it within two



months He then wrote a game of Backgammon that was played with a light pen

"I needed someone to market the game and I found an entrepreneurial Cornish company called Microdeal who could handle all this They placed their first ad in a magazine and had an immediate response This founded our relationship, me creating ideas and games whilst they sold them "

Cuthbert then went on to learn Z80 programming but decided that rather than develop these skills further he would go a venturing and cross the realms of impossibility to create new games for Microdeal "This decision was partially prompted by the American Big Five games for the Tandy These were very good indeed and made it hard to compete as a programmer "

"Now I spend most of mt time in space travelling the universe developing new game scenarios as I travel " Cuthbert's craft is built around his "old faithful" Dragon 64 machine that acts as master command computer It appears there is no way that he would change this for another

If Cuthbert is the Peter Pan of the computer scene then the Moronians are the Captain Hook's of this world He upset them during Cuthbert Goes Walkabout, something to do with landing pad light we assume Since that time they have taken a good deal of Cuthbert's time and the planet Moron has been a regular landing place

He has been able to concentrate on developments of the home computer industry and found our time capsule very easy indeed to fill As usual, we started by filling it with hardware and computers

"I would want to preserve the Dragon 32 mainly because I started my adventures on that machine The use of the 6809 microprocessor made this machine a professional programming tool and not the toy that many seem to assume The 6809 still has a great deal to offer "

"I couldn't forget the Tandy Model I either It was my first real computer and had some fantastic machine code arcade games One as so good and so accurate a copy, Galaxy Invasion, that it had to be withdrawn due to copyright problems "

"The Tandy was the first of the High Street computers that anyone could walk into a store and buy Providing that they could afford the £439 that it cost "

A look at software brought us back to the Tandy again "All the games by Big Five were excellent, Galaxy Invaders, Super Nova and Robot Battle were my favourites "

"Manic Miner was a turning point, despite not being available for the Dragon! No longer was the whole software market dominated by the Zap Pow type of game there was another concept available too "

"Finally, I should mention Dungeons which was the first interactive computer game It even preceded the arcades although it wasn't available to a great many players needing the power of a mainframe to run I used to do very well on this game due to my Troglodite parentage and I think that it was due to my success that digital brought out the VAX machine "

"Among the books that should be preserved for posterity are those from Rodney Zaks on the various processors They were written for human beings and almost anyone with an interest could understand them Another book that I would recommend to the beginner is Illustrated BASIC which has to be the very easiest of books to understand "

"There was one book that caused punch-ups over copies here in Cornwall Ian Sinclair's Spectrum machine code book was so greatly coverted that there were actual fights over the small number of copies in the shops "

Computer add-ons are a fascinating area and Cuthbert remembers a huge number of both hits and misses In particular he recommends the original Kempston joystick interface "You wouldn't think it now but when this parcel arrived from Kempston the address label was printed on a ZX printer and was the usual silver and black paper stuck down with Sellotape Mind you I do mean the "original" interface, there was no case around this, simply a bare board It was fantastic quality even if the design was strange "

So that the interface would be of some use Cuthbert decided to offer a joystick as part of his capsule "I would have to save a Quickshot II as this has to be the very best selling of its type. I would probably add a copy of Decathlon and, so that the joystick had any chance of a life, I would make sure that the copy was faulty and wouldn't load!"

At this point Cuthbert's concentration seemed to falter a little and he started to get a glazed look in his eyes He obviously wanted to get back to his travels but before he went I asked him to look into the future for us and give his assessment of the next developments

"I can see interactive video games being one possible avenue Marantz, Pioneer and Sony all have this technology developed and I believe that they will spell the end of low cost computer games. There is the possibility that the equipment will become cheaper but that is what I see when gazing into crystal underground lake I would just sit playing them for hours "

With that Cuthbert made his way out of the room and back to his spaceship He did tell us however that anyone who wants to follow his adventures can receive his Cuthbert Chronical, free, six times a year simply by asking Microdeal It features all the latest news, reviews and adventures He also welcomes letters and does answer them although it might take a long time due to his frequent absences If you need to contact Microdeal please write to

Microdeal, 41 Truro Road, St Austell, Cornwall PL25 5JE

NEW QUILL

This utility from Justin Moffat enables you to edit text and process your words of wisdom on your Spectrum

With this program for the ZX Spectrum/Spectrum Plus you will be able to create and edit your own documentation

Once you have keyed-in you will be able to chop and manipulate text to suit the output you require. So leave the games on the shelf for the day and try out your word-processing skills

Typing in the program

The program is fairly long and has been numbered in steps of 10 so that lines may be added at will

When you have completely entered the program, it may be saved by the following line CLEAR SAVE "SP QUILL" LINE 10. The program will run automatically when it is reloaded

The Main Menu

When the program is reloaded a menu appears with six choices as listed below

CREATE — allows you to make a new set of letters of documents

EDIT — allows you to change the present set of documents

SAVE — stores letters on tape

LOAD — recalls letters on tape

PRINT — prints letters on screen

LPRINT — sends a letter to printer

The cursor may be moved with the "S" key and the choice is made with "O" key

Create and edit

If you have chosen either CREATE or EDIT you will come to an editing screen. CREATE will clear the screen of previous text but if you choose EDIT any existing text will be retained

There are five documents (numbered 0 to 4) of 10 pages (pages numbered 0 to 9), 10 pages of 20 lines (lines 1 to 20), 20 lines of 32 rows (rows 0 to 31)

The cursor can be moved in the usual four directions — up, down, right and left. This is achieved by pressing Caps Shift 5,6,7,8, as the arrows show

The main menu may be recalled by Caps Shift 2 and character may be deleted with Caps Shift 9. For example LINE would become LIN then LI and so on

A list of keys may be recalled Caps Shift and 9. The Caps Shift and 1 keys give a screen called the "Command Menu" — here you can get the true word-processing commands

LOAD and SAVE

The LOAD and SAVE commands in lines 1280 and 1310 use a string to enter the file name — see page 106 of the Spectrum manual

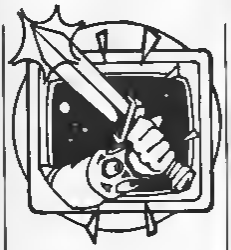
PRINT and LPRINT

In the program the data is printed using PRINT #, thus the LPRINT command is not used. This allows use of RS232 and PARALLEL printers with the correct OPEN# and CLOSE# commands

```
  10 REM SP Quill1985 J. Moffitt
  20 BORDER 0: PAPER 0: CLS : POKE 23606,1
  30 DIM s(2): LET del=0: LET mov=0: LET tab=15: LET dc=1: LET pg=1: DIM q$(5,10
,20,32): LET l=1: LET c=0: FOR f=0 TO 6: POKE USR "u"+f,0: NEXT f: POKE USR "u"+
7,255
  40 CLS : INK 5: PRINT AT 1,5;" SP QUILL";AT 0,5;"________": OVER 1;AT 1,5;"__
________"
  50 INK 6: PRINT AT 5,0;"[ JCREATE DOCUMENT"'';"[ JEDIT DOCUMENT"'';"[ JLOAD DO
CUMENTS"'';"[ JSAVE DOCUMENTS"'';"[ JPRINT DOCUMENT"'';"[ JLPRINT DOCUMENT"
  60 LET cur=5
  70 PRINT AT cur,1;"■"
  80 LET a$=INKEY$: IF a$<>"6" AND a$<>"0" THEN  GO TO 70
  90 IF a$="6" THEN  GO TO 160
 100 IF cur=5 THEN  GO TO 1240
 110 IF cur=7 THEN  GO TO 180
 120 IF cur=9 THEN  GO TO 1260
 130 IF cur=11 THEN  GO TO 1300
 140 IF cur=13 THEN  GO TO 1330
 150 IF cur=15 TEN  GO TO 1350
 160 PRINT AT cur,1;" ": LET cur=cur+2: IF cur=17 THEN  LET cur=5
 170 BEEP 0.06,15: GO TO 70
 180 CLS : INK 2: PRINT AT 1,0;"...*...1...*...2...*...3...*...4"
 190 INK 4: LET i=1: LET c=0: LET pg=1: GO TO 590
 200 INK 2: PRINT AT 1,0;"...*...1...*...2...*...3...*...4"
 210 INK 4: PRINT AT 1+1,c; OVER 1;" ": PRINT AT 0,0; INK 6;"LINE:  ";AT 0,5;l;
AT 0,8;"ROW:  ";AT 0,12;c;AT 0,15;"PAGE:";pg-1;AT 0,22;"DOCUMENT:";dc-1
 220 LET a$=INKEY$: IF a$="" OR CODE a$>123 THEN  GO TO 220
 230 PRINT AT 1+1,0;q$(dc,pg,l,1 TO )
 240 IF CODE a$=7 THEN  GO TO 600
 250 IF CODE a$=10 THEN  GO TO 390
 260 IF CODE a$=11 THEN  GO TO 430
 270 IF CODE a$=13 THEN  GO TO 1000
 280 IF CODE a$=8 THEN  GO TO 460
 290 IF CODE a$=9 THEN  GO TO 490
 300 IF CODE a$=12 THEN  GO TO 520
 310 IF CODE a$=15 THEN  GO TO 1390
 320 IF CODE a$=6 THEN  GO TO 40
 330 IF CODE a$=4 OR CODE a$=5 THEN  GO TO 210
 340 LET q$(dc,pg,l,c+1)=a$: PRINT AT 1+1,c;q$(dc,pg,l,c+1)
 350 LET c=c+1: IF c=32 THEN  LET l=l+1: LET c=0: IF l=21 AND pg<10 THEN  LET pg
=pg+1: LET l=1: GO TO 590
 360 IF pg=10 AND l=21 THEN  LET l=20: LET c=31: BEEP 0.05,15
 370 IF l=21 THEN  LET l=21: BEEP 0.05,15
 380 GO TO 210
 390 LET l=l+1: IF CODE a$=13 THEN  LET c=0
 400 IF l=21 AND pg<10 THEN  LET pg=pg+1: LET l=1: GO TO 590
 410 IF l=21 THEN  LET l=20: BEEP 0.05,15
 420 GO TO 210
 430 LET l=l-1: IF l=0 AND pg>1 THEN  LET pg=pg-1: LET l=20: GO TO 590
 440 IF l=0 THEN  LET l=1: BEEP 0.05,15
 450 GO TO 210
 460 LET c=c-1: IF c=-1 AND l=1 AND pg<2 THEN  LET c=0: LET l=1: BEEP 0.05,15
 470c=-1 THEN  LET c=31: GO TO 430
 480 GO TO 210
 490 LET c=c+1: IF c=32 AND pg=10 AND l=20 THEN  LET c=31: BEEP 0.05,15
 500 IF c=32 THEN  LET c=0: LET a$=CHR$ 13: GO TO 390
 510 GO TO 210
 520 IF c=0 AND l>1 THEN  LET l=l-1: LET c=32
 530 IF l=1 AND c=0 THEN  BEEP 0.05,15: GO TO 210
 540 LET q$(dc,pg,l,c TO )=q$(dc,pg,l,c+1 TO ): LET q$(dc,pg,l,32)=" ": LET c=c-
1
 550 IF c=-1 AND l>1 THEN  LET l=l-1
 560 IF c=-1 AND l=1 AND pg>1 THEN  LET pg=pg-1: LET c=31: LET l=21: GO TO 590
 570 IF c=-1 AND pg=1 THEN  LET c=0
 580 PRINT AT 1+1,0;q$(dc,pg,l,1 TO ): GO TO 210
 590 POKE 23606,1: FOR f=2 TO 21: PRINT AT f,0;q$(dc,pg,f-1,1 TO ): NEXT f: GO T
O 210
 600 INK 7: CLS : PRINT  INK 6;AT 0,10;"COMMAND MENU";AT 2,1;"Press the appropia
```

```
te key,on theScreen a messags will appear    saying what the commend does,if it
is the one you want then hit enter."
 610 PLOT 0,103: DRAW 255,0: DRAW 0,-31: DRAW -255,0: DRAW 0,31
 620 INK 5
 630 LET a$="1": GO TO 660
 640 LET a$=INKEY$: IF a$="" OR CODE a$>123 THEN  GO TO 640
 650 IF CODE a$=13 THEN  GO TO 700
 660 RESTORE 1110: FOR f=1 TO 13: READ g$: IF g$(1)=a$ THEN  GO TO 680
 670 NEXT f: GO TO 640
 680 LET q=f: PRINT AT 10,1;g$(2 TO 31);AT 11,1;g$(32 TO 61)
 690 RESTORE 1110: GO TO 640
 700 POKE 23606,0
 710 IF q=7 THEN  GO TO 850
 720 IF q=10 THEN  GO TO 870
 730 IF q=12 THEN  GO TO 910
 740 CLS : INK 2: PRINT AT 1,0;"...*...1...*...2...*...3...*...4": INK 4
 750 IF q=11 THEN  GO TO 590
 760 IF q=1 THEN  POKE 23658,8: GO TO 590
 770 IF q=2 THEN  POKE 23658,0: GO TO 590
 780 IF q=6 THEN  LET c=0: GO TO 590
 790 IF q=5 THEN  LET c=31: GO TO 590
 800 IF q=3 THEN  LET c=31: LET l=20: GO TO 590
 810 IF q=4 THEN  LET c=0: LET l=1: GO TO 590
 820 IF q=8 THEN  LET tab=c: GO TO 590
 830 IF q=9 THEN  LET c=tab: GO TO 590
 840 IF q=13 THEN  LET del=1: GO TO 590
 850 INPUT "CALL WHICH DOCUMENT? ";dc: LET dc=dc+1: IF dc>5 OR dc<1 THEN  GO TO
850
 860 CLS : INK 2: PRINT AT 1,0;"...*...1...*...2...*...3...*...4": INK 4: LET pg
=1: LET l=1: LET c=0: GO TO 590
 870 INPUT "PHRASE TO CENTRE? ";,; LINE f$: IF f$="" THEN  GO TO 870
 880 FOR f=1 TO LEN f$: IF CODE f$(f)>122 OR CODE f$(f)<32 THEN  GO TO 870
 890 NEXT f: LET c1=15-LEN f$/2: LET q$(dc,pg,l,c1+1 TO c1+LEN f$+1)=f$: LET c=c
1+LEN f$
 900 CLS : INK 2: PRINT AT 1,0;"...*...1...*...2...*...3...*...4": INK 4: GO TO
590
 910 INPUT "PHRASE TO FIND?   ";,; LINE f$: IF f$="" THEN  GO TO 910
 920 FOR f=1 TO LEN f$: IF CODE f$(f)>122 OR CODE f$(f)<32 THEN  GO TO 910
 930 NEXT f
 940 POKE 23606,1: CLS : INK 2: PRINT AT 1,0;"...*...1...*...2...*...3...*...4":
 INK 4
 950 INK 4: FOR f=1 TO 20: IF q$(dc,pg,f,1 TO )="
" THEN  NEXT f
 960 IF f=21 THEN  GO TO 990
 970 POKE 23606,0: PRINT AT f+1,0;q$(dc,pg,f,1 TO ): FOR h=1 TO 32-LEN f$: IF q$
(dc,pg,f,h TO h+LEN f$-1)=f$ THEN  PRINT AT f+1,h-1; INVERSE 1;q$(dc,pg,f,h TO h
+LEN f$-1)
 980 NEXT h: NEXT f
 990 POKE 23606,1: PAUSE 100: GO TO 590
1000 IF del=0 THEN  GO TO 390
1010 IF del=1 THEN  GO TO 1020
1020 IF s(1)=0 THEN  LET s(1)=1: GO TO 210
1030 IF 1<s(1) THEN  BEEP 0.05,15: GO TO 210
1040 LET s(2)=1
1050 LET t=1: FOR f=s(1) TO 20-s(2)
1060 LET q$(dc,pg,f,1 TO )=q$(dc,pg,s(2)+t,1 TO )
1070 LET t=t+1
1080 NEXT f
1090 FOR f=20-s(2)+1 TO 20: LET q$(dc,pg,f,1 TO )="
   ": NEXT f
1100 LET l=s(1): LET del=0: DIM s(2): GO TO 590
1110 DATA "1CAPS LOCK ON-Gives upper case Eg. QWERTY...                    "
1120 DATA "2CAPS LOCK OFF-Gives lower caseEg. qwerty...                    "
1130 DATA "3CURSOR TO END OF PAGE-Moves   cursor to end of present page    "
1140 DATA "4CURSOR TO TOP OF PAGE-Moves   cursor to top of present page    "
1150 DATA "5CURSOR TO END OF LINE-Moves   cursor to end of present line    "
1160 DATA "6CURSOR TO START OF LINE-Moves cursor to start of the  line     "
1170 DATA "7CALL NEW DOCUMENT-Calls one ofthree documents stored in RAM    "
```

```
1180 DATA "8SET AUTO-TAB-Sets a tabulationpoint which can be recalled      "
1190 DATA "9GET AUTO-TAB-Gets a tabulationpoint which has been set         "
1200 DATA "BCENTRE PHRASE-Centres phrase  on the present line             "
1210 DATA "RRETURN TO EDIT MODE-Return to typing in your letter            "
1220 DATA "FFIND PHRASE-Finds all places  where the phrase is used         "
1230 DATA "DDELETE TEXT-Deletes all text  between points set               "
1240 DIM s(2): LET de1=0: LET mov=0: LET tab=15: LET dc=1: LET pg=1: DIM q$(5,10
,20,32): LET l=1: LET c=0: FOR f=0 TO 6: POKE USR "u"+f,0: NEXT f: POKE USR "u"+
7,255
1250 CLS : GO TO 200
1260 INPUT "LOADING NAME ?",,; LINE a$
1270 IF LEN a$>11 THEN  BEEP 0.05,15: GO TO 1260
1280 LOAD a$ DATA q$()
1290 GO TO 40
1300 INPUT "SAVING NAME ?",,; LINE a$: IF a$="" OR LEN a$>11 THEN  BEEP 0.05,15:
 GO TO 1300
1310 SAVE a$ DATA q$()
1320 GO TO 40
1330 INPUT "PRINT WHICH DOCUMENT ?";dc: LET dc=dc+1: IF dc>5 THEN  BEEP 0.05,15:
 GO TO 1330
1340 CLS : INK 4: FOR f=1 TO 10: PRINT AT 0,0;"DOCUMENT ";dc-1;" PAGE ";f-1; INK
 2;AT 1,0;"...*...1...*...2...*...3...*...4": FOR g=1 TO 20: PRINT AT g+1,0;q$(d
c,f,g,1 TO ): NEXT g: PAUSE 0: NEXT f: PAUSE 0: GO TO 40
1350 INPUT "LPRINT WHICH DOCUMENT ?";dc: LET dc=dc+1: IF dc>5 THEN  BEEP 0.05,15
: GO TO 1350
1360 INPUT "FROM WHICH PAGE ?";p1: LET p1=p1+1: IF p1>10 THEN  BEEP 0.05,15: GO
TO 1360
1370 INPUT "TO WHICH PAGE ?";p2: LET p2=p2+1: IF p2>10 OR p2<p1 THEN  BEEP 0.05,
15: GO TO 1370
1380 CLS : FOR f=p1 TO p2: FOR g=1 TO 28: PRINT q$(dc,f,g,1 TO );@3;q$(dc,f,g,1
TO ): NEXT g: NEXT f: PAUSE 0: GO TO 40
1390 CLS : INK 7: PRINT TAB 10; INK 6;"SP Quill"
1400 PRINT AT 5,0;: PRINT : PRINT "       Shift & 1...Command Menu": PRINT : PRIN
T "       Shift & 2...Call Menu": PRINT : PRINT "Shift & 5,6,7,8...Cursor": PRINT
 : PRINT "       Shift & 9...Help": PRINT : PRINT "       Shift & 0...Delete"
1410 PAUSE 0: CLS : INK 2: PRINT AT 1,0;"...*...1...*...2...*...3...*...4": INK
4: GO TO 590
```



VENTURES

More cries and whispers from the dungeon, where we keep Peter Sweasey and his dwarfish assistant. Life is just one long adventure for them

The number of new releases seems to be slowing down now, as we reach mid-summer However, in the coming month we have four big new games coming out Mordon's Quest, the "sequel" to Classic Adventure from Melbourne House, Red Moon, the latest from Level 9, Swords and Sorcery, the long delayed, but extremely promising new PSS arcventure, and Robin Of Sherwood from Adventure International, written by the Gremlins team

This time, however, I am going to look at Interceptor adventures, in particular Warlord, a recent addition to their large range As regular readers will know, I am quite a newcomer to their games, and to be honest, I feel they are slightly overrated They are all pretty similar in programming style, so Warlord is a good starter

The scenario is quite unusual Most Interceptor games are set in a timeless, middle earth type past, but this is distinctly first century AD The Celtic gods of Britain are losing the battle against the invading Romans, and their gods To prevent a direct, inevitably devestating conflict between the two sets of celestial powers, each chooses a mortal "pawn" These are placed in the Celtic otherworld, with the first one to reality the winner! You, naturally, play the Celt If you win, you will rewrite history

On loading the game you are presented with an instant, very attractive graphic These excellent illustrations are a strong point of Interceptor's games They are not at every location, certainly on Spectrum and Amstrad versions On some CBM games, like Empire Of Karn, they are much more frequent, although slower to draw, and less detailed Many CBM versions have background music, which some people may like, but which I found grating

Text is brief, but adequate There is slightly more than in an average Scott Adams game

Vocabulary varies, from game to game, but in Warlord is quite good Full sentence construction is allowed, and in some games you can instruct other characters Some of the words listed on the instructions — including HELP — are not recognised in Warlord, but this is a common fault with companies who print "standard" information Some of the responses are better than the usual "You can't", like "I don't see the point", which shows the player that the computer understands but the action is useless anyway. There is some humour too, which always improves adventures

The main problem with Warlord, and most of the Interceptor range, is that it is far too easy Within half an hour, I had scored 20% Thus, after a few days play, most average players could complete it, which is hardly value for money, even at £5 50 Empire Of Karn was even worse — I completed 50% in one hour! Yet Interceptor describe many of their games as for "advanced players", which is ridiculous if compared with the same rating for Adventure Quest or Sorceror of Claymourge Castle

Hence my surprise at the enormous popularity of titles such as Forest At The World's End In general, the games are very average average scenarios, average vocabulary, average text, above average graphics balanced out by below average quantity, and below average difficulty at an average price

They are not that bad, but for a pound or two more you can buy the likes of Esmerald Isle, which will keep you going for months With the distributors taking on more adventure games, Interceptor better watch out I could of course be wrong, maybe the public like very easy adventures If you do, write to me.

Warlord

Price: £5 50 (Spec), £6 00 (Amstrad)

Publisher: Interceptor

Address: Lindon House, The Green Tadley, Hants

SPECTRUM
AMSTRAD

Helpline

Jonathan Biddle from Suffolk is having problems with Melbourne House's, sophisticated, Sherlock He cannot open Basil's safe, The answer is to OPEN SAFE, but while Basil is out (around 12 30pm), otherwise he will shoot you My Sherlock correspondent, Sam Zubedi, informs me that your other questions are red herrings

My comments on Scott Adams and Texas of a few months back brought protests from a couple of the dwindling group of Texas users Mark McGurn wrote back asking why I cannot review it The reason was, I felt it would be best to wait until Adventure International release it for the majority of machines later this year (the TI cartridge currently available is nothing to do with AI UK) But, since you have been so persistent, the editor is throwing a Texas down into my dungeon and I will be reviewing it soon. Mark also wants to know why Ventures is not printed weekly — well, there just isn't enough space, as the editor will tell you

J Downie, from Ayrshire, accused me of getting my facts wrong about having to produce cartridges for Questprobe on the Texas. Well, I'm no great expert on the subject, and I did phrase my explanation a little misleadingly, but certainly as far as Questprobe is concerned, AI say cartridge is the only way.

You should have noticed I am dealing with less adventures these days, and under my stricter definition Technician Ted does not really qualify, no matter what Hewson say But seeing as we printed the map, I thought I had better complete the task list Richard Burton of Cornwall takes up the story from the 7th task, the Canteen, They are Photocopier, Boardroom, Shee Surface Abrasion, Laser Shee Separation Plant, Bay 7, Microchip Mounting Furnace, Tea Machine, Power Generator, Electro-Plating Bath, Quality Assessment Department, Abrasion Dust Extraction, Matthew's Lair, We Call Him Sir and The Wage Department Richard asks where to go next — well, according to Michael Adler from Durham, you need to go left from the Union Picket Line I have out checked these tips out, so we can only trust our readers honesty

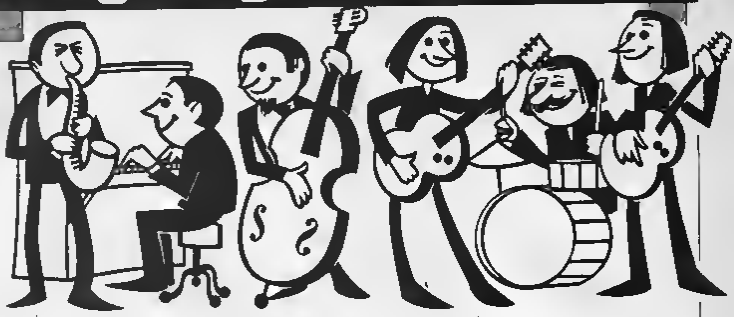
Ian Polverton from Yorkshire cannot go anywhere in the boat in Artic's Inca Treasure. You need to ROW south, west or east

Now here's a real problem that I have been pondering over for some time, but cannot help with New Zealander Dwayne Carnachan wrote in April, asking how to move the boulder in "The Catacombs" The problem is, he does not say which company makes the game, or which computer he owns, so I am unable to help, since I have never heard of it If any HCW readers can, please write in Another plea I cannot answer is from Jim Grier in Ayrshire He cannot find the mouse to scare the elephant with in Acornsoft's Sphinx Adventure Sadly I have never played it — so can you help?

John Rundle from Aldershot, who seems to turn up in every helpline these days, has sent me a useful complete solution to Level 9's excellent Lords Of Time, many thanks He is one of the many stuck with Mikro Gen's superb adventure, The Witch's Cauldron, which I will be giving hints for next time Joho Wilson from Rochdale has sent more solutions, for Tir Na Nog and Knight's Quest, which are superbly written and printed in glowing pink on the best thermal printer I have ever seen John gets some prize software for his contribution — as you can So, remember, if you want help, can give help, or just want to express your opinions on adventuring, write to me Happy venturing!

Write to: Ventures, Home Computing Weekly, No 1 Golden Square, London W1R 3AB

MICRO MEDLEY



Banish silence from your programming by following Jason Robinson's music routine for the BBC

Musical accompaniment from your micro is made possible with this interrupt driven routine which can be used to provide theme music for programs or background music during loading interludes

How it works

This routine allows music to play while other programs are running or loading. All that is required from the user is the envelope number or volume in line 210, the number of data statements in line 100 and the data for the tune, pitch length etc.

The routine is activated by *FX 14,4 and deactivated by FX 13 4. I have entered an example tune from one of my future games as a demonstration. This should make the program easier for first-time users

Variables

I%	loop variable
P	location &70
S	location &71
&70	number of data statements
&71	sound channel
&73	volume or envelope number
&75	pitch of current note
&77	duration of current note

```
  10REM ***********************
  20REM * Interrupt driven *
  30REM *   music routine  *
  40REM *  for the BBC 'B' *
  50REM *        by       *
  60REM ***********************
  70REM *  Jason Robinson  *
  80REM ***********************
  90ENVELOPE 1,1,0,0,0,1,1,1,90,-1,-1,-1,90,30
 100?&70=118:REM number of data statements
 110
 120REM loop to place data backwards in  memory, hence step of -1
 130
 140FORIX=118TO1STEP-1
 150READJX:IFIX ANDI IX?&A00=JX:1.9 ELSEIX?&A00=J%
 160NEXT
 170
 180P=&70 :REM P holds the number fo data
 190S=&71
 200'S=1 :REM sound channel
 210S'2=1 :REM volume or envelope
 220
 230?&220=&00 :REM low byte of routine in the event vector
 240?&221=&09 :REM high byte
 250
 260FOR1=0TO28TEP2
 270PX=&900
 280
 290OPT1:PHP:PHA:TXA:PHA:TYA:PHA
 300LDA#&80:LDX#&FA:LDY#&FF:JSR&FFF4:CPX#10:BMI end
 310LDY&70:LDA&A00,Y:STA&75:DEY:LDA&A00,Y:STA&77:LDA#7:LDX#&71 MOD256:LDY#&71 D
IV256:JSR&FFF1
 320DEC&70:DEC&70:BNE end
 330LDA#118:STA&70
 340.end:PLA:TAY:PLA:TAX:PLA:PLP:RTS:]
 350
 360NEXT
 370
 380REM activate event
 390*FX14,4
 400
 410REM data for tune; pitch, duration etc.
 420
 430DATA 61,8,69,8,89,8,77,8,61,4,61,4,69,4,77,2,61,18,61,8,69,8,89,8,77,8,77,4
,77,4,89,4,97,2,77,18,85,8,69,4,49,4,41,4,77,12,85,8,69,4,97,4,85,6,69,2,77,4,97
,4,85,8
 440DATA 69,4,49,4,41,4,77,12,85,12,69,4,97,16,77,8,61,4,89,8,85,4,77,4,69,4,77
,8,61,4,89,4,97,6,89,2,85,4,77,2,69,2,77,8,61,4,89,8,85,4,77,4,69,4,77,32
```

AMSTRAD GAME

PONTOON

Twist the night oway with this pontoon game for the Amstrad by Chris Boll

Will your Amstrad give you a fair deal? The only way to find out is to play a few hands of pontoon. At least you can be sure it's got nothing up its sleeve.

Twenty-one is a graphical computer version of the card game Pontoon. The object of Twenty-one is to get close to twenty-one without exceeding it. You do this by adding the face values of the cards, you can twist extra cards, but if you exceed twenty-one you bust and the computer automatically wins. When you think you have enough you "stick". The computer then plays its hand to try and beat you.

Aces count as one or eleven.

Variables

aces number of aces player has
TOTAL your total
DOTAL computers total
X AND Y used for positioning cards on screen
c$(n) card
b$(n) back of card
n used in FOR/NEXT loops

How it works

10-240 set up screen
250-640 actual game
650-800 won or lost instructions
810-1070 deal backs of cards in order
1080-1610 sort out card and read data
1640-1730 set up graphics for card backs
1740-1880 DATA for card layout

```
50 INK 2 ,26,0
60 INK 0,0
70 INK 13,26
80 INK 4,1
90 BORDER 0
100 PAPER 13
110 MODE 1
120 CLS
130 aces=0
140 SYMBOL 240,207,73,73,73,73,73,239
150 T=0 : TOTAL = 0 : DOTAL =0
160 PEN 3 :PRINT"                    TWENTY-ONE"

170 PEN 0 :PRINT"-------------------------------
-----------";
180 PRINT:PRINT" Dealer "
190 LOCATE 1,14: PRINT" You"
200 LOCATE 36,4 : PRINT"TOTAL"
210 LOCATE 36,14 : PRINT"TOTAL";
220 PEN 0 :LOCATE 1,24 : PRINT'-------------
-------------------------";
230 GOSUB 810
240 LOCATE 1,25 : PEN 3 : INPUT"            PRES
S [ENTER] TO PLAY",K$
250 X=1 : Y=15 : TI=0
260 GOSUB 1070
270 TI=TI+1
280 FOR N=1 TO 8
290 LOCATE X,Y
300 Y=Y+1
310 PPINT C$(N)
320 NEXT
330 TOTAL = TOTAL + T
340 IF TOTAL<=21 THEN 380
350 IF aces>=1 THEN total=total-10
360 aces=aces -1
370 GOTO 380
380 IF TI=1 THEN X=X+7 : Y=15 : GOTO 260
390 LOCATE 37,19 : PEN 0: PRINT TOTAL
400 IF total>21 THEN 660
410 IF TI= 5 THEN GOTO 690
415 IN$=INKEY$
420 LOCATE 1,25 : PRINT"                 STICK OR T
WIST (S/T)"
430 IF INKEY$="T" OR IN$="t" THEN X=X+7 : Y=1
5 : GOTO 260
440 IF INKEY$="S" OR IN$="s" THEN 460: ELSE 4
30
450 CLEAR
460 X=1 : Y=5 : TI=0 :ACES=0
470 GOSUB 1070
480 TI=TI+1
490 FOR N=1 TO 8
500 LOCATE X,Y
510 Y=Y+1
```

P R O G R A M

```
 [illegible] LOCATE 1,25 :PEN 2 : PRINT[illegible] I WIN WIT
H A FIVE CARD TRICK....."
 [illegible] T=0
770 T=T+1 : IF T 400 THEN GOTO 120 : ELSE 77[illegible]
780 LOCATE 1,25 :PEN 2 : PRINT[illegible]
[illegible]..I WIN.....'
790 T=0
800 T=T+1 : IF T>400 THEN GOTO 120 : ELSE 800

810 REM
820 REM ****************************** BACK O
F CARDS ***************************
830 PEN 4
840 GOSUB 1630
850 LOCATE 1,15
860 FOR N=1 TO 8
870 PRINT B$(N)
880 NEXT
890 LOCATE 1,5
900 FOR N=1 TO 8
910 PRINT B$(N)
920 NEXT
930 x=9 : y=4
940 FOR n=1 TO 8
```

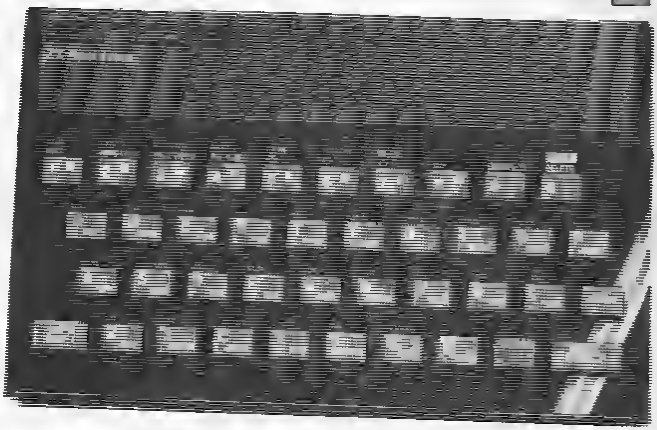
```
520 PRINT C$(N)
530 NEXT
540 DOTAL = DOTAL + T
550 IF DOTAL =21 THEN 580
560 IF ACES =1 THEN DOTAL=DOTAL -10
570 ACES=ACES-1
580 LOCATE 37,9 : PEN 0:PRINT DOTAL
590 IF DOTAL  21 THEN 720
600 IF T1=1 THEN X=X+7 : Y=5 : GOTO 470
610 IF DOTAL  21 THEN 720
620 IF T1= 5 THEN GOTO 750
630 IF DOTAL >= TOTAL THEN 780
640 X=X+7 : Y=5 : GOTO 470
650 REM ************************** WIN OR LOO
SE **************************
660 LOCATE 1,25 :PEN 2 : PRINT  ........ ..Y
OU BUST I WIN.............';
670 T=0
680 T=T+1 : IF T>400 THEN GOTO 120 : ELSE 690

690 LOCATE 1,25 :PEN 2 : PRINT'.....YOU WIN W
ITH A FIVE CARD TRICK.....';
700 T=0
710 T=T+1 : IF T>400 THEN GOTO 120 : ELSE 71[illegible]

720 LOCATE 1,25 :PEN 2 : PRINT".............Y
OU WIN I BUST............ ;
730 T=0
740 T=T+1 : IF T 400 THEN GOTO 120 : ELSE 74[illegible]
```

RCA'85

```
950 y=y+1
960 LOCATE x,y
970 PRINT b$(n)
980 NEXT
990 x=8 : y=14
1000 FOR n=1 TO 8
1010 y=y+1
1020 LOCATE x,y
1030 PRINT b$(n)
1040 NEXT
1050 PEN 3
1060 RETURN
1070 REM
1080 REM ************************** RANDOM NU
MBER GENERATOR ************************
1090 DEF FN R(X)=INT (RND*X)+1
1100 LET CARD=FN R(13)
1110 DEF FN R(X)=INT (RND*X)+1
1120 LET SUIT=FN R(4)
1130 REM
1140 REM ************************** SORT OUT C
ARD ********************************
1150 IF CARD=1 THEN CARD$="1"
1160 IF CARD=2 THEN CARD$="2"
1170 IF CARD=3 THEN CARD$="3"
1180 IF CARD=4 THEN CARD$="4"
1190 IF CARD=5 THEN CARD$="5"
1200 IF CARD=6 THEN CARD$="6"
1210 IF CARD=7 THEN CARD$="7"
1220 IF CARD=8 THEN CARD$="8"
1230 IF CARD=9 THEN CARD$="9"
1240 IF CARD=10 THEN CARD$="10"
1250 IF CARD=11 THEN CARD$="11"
1260 IF CARD=12 THEN CARD$="12"
1270 IF CARD=13 THEN CARD$="13"
1280 IF CARD>10 THEN CARD=10
1290 IF card=1 THEN scss=scss+1
1300 IF card=1 THEN card=11
1310 T=CARD
1320 RESTORE
1330 READ Q$
1340 IF Q$=CARD$ THEN 1350 : ELSE 1330
1350 READ N$,A$,B$,C$,D$,E$,F$,G$
1360 IF N$="X" THEN N$=CHR$(240)
1370 IF SUIT=1 THEN S=226
1380 IF SUIT=2 THEN S=227
1390 IF SUIT=3 THEN S=228
1400 IF SUIT=4 THEN S=229
1410 IF A$="s" THEN A$=CHR$(S)
1420 IF B$="s" THEN B$=CHR$(S)
1430 IF C$="s" THEN C$=CHR$(S)
1440 IF D$="s" THEN D$=CHR$(S)
1450 IF E$="s" THEN E$=CHR$(S)
1460 IF F$="s" THEN F$=CHR$(S)
1470 IF G$="s" THEN G$=CHR$(S)
1480 IF SUIT=1 THEN PEN 0
1490 IF SUIT=2 THEN PEN 7
1500 IF SUIT=3 THEN PEN 7
1510 IF SUIT=4 THEN PEN 0
1520 REM
1530 REM ************************** CARD S
ET-UP ******************************
1540 C$(1)= CHR$(150)+STRING$(5,CHR$(154))+CH
R$(156)
1550 C$(2)= CHR$(149)  +N$+"    "+CHR$(149)
1560 C$(3)= CHR$(149)+A$+"    "+A$+CHR$(149)

1570 C$(4)= CHR$(149)+B$+"  "+C$+"  "+D$+CHR$(1
49)
1580 C$(5)= CHR$(149)+E$+"  "+F$+"  "+E$+CHR$(1
49)
1590 C$(6)= CHR$(149)+G$+"    "+G$+CHR$(149)

1600 C$(7)= CHR$(149)+"    "+N$+CHR$(149)
1610 C$(8)= CHR$(147)+STRING$(5,CHR$(154))+CH
R$(153)
1620 RETURN
1630 REM
```


```
1640 REM ************************** CARD
BACK ******************************
1650 B$(1)= CHR$(150)+STRING$(5,CHR$(154))+CH
R$(156)
1660 B$(2)= CHR$(149)+STRING$(5,CHR$(207))+CH
R$(149)
1670 B$(3)= CHR$(149)+STRING$(5,CHR$(207))+CH
R$(149)
1680 B$(4)= CHR$(149)+STRING$(5,CHR$(207))+CH
R$(149)
1690 B$(5)= CHR$(149)+STRING$(5,CHR$(207))+CH
R$(149)
1700 B$(6)= CHR$(149)+STRING$(5,CHR$(207))+CH
R$(149)
1710 B$(7)= CHR$(149)+STRING$(5,CHR$(207))+CH
R$(149)
1720 B$(8)= CHR$(147)+STRING$(5,CHR$(154))+CH
R$(153)
1730 RETURN
1740 REM
1750 REM ************************** DATA F
OR CARD LAYOUT ********************
1760 DATA 1,A," ","s","  ","s"," "
1770 DATA 2,2,  ","s","  ","s"," "
1780 DATA 3,3,  ","s","  ","s"," "
1790 DATA 4,4,"s"," ","s"," ","s"," ","s"
1800 DATA 5,5,"s"," ","s"," ","s"," ","s"

1810 DATA 6,6,"s"," ","s","  ","s","s","s"
1820 DATA 7,7,"s","s"," ","s"," ","s","s"

1830 DATA 8,8,"s","s"," ","s","s","s","s"

1840 DATA 9,9,"s","s","s","s","s"," ","s"
1850 DATA 11,J,"s","s","s","s","s","s","s"

1860 DATA 12,Q,"s","s","s","s","s","s","s"
1870 DATA 13,K,"s","s","s","s","s","s","s"
1880 DATA 10,X,"s","s","s","s","s","s","s"
```

BEGINNING MACHINE CODE



How to get INto and OUT of your micro is the basis of this week's instalment of our Spectrum machine code series from Diana & Terry Smith

This week we are going to look at the IN and OUT instructions They work in a very similar way to their BASIC counterparts which are explained in the Spectrum manual They are the means by which the CPU can interface with the outside world

The use of IN and OUT is determined to a large extent by the computer hardware As explained in the manual, there are 65536 possible I/O or Input/Output ports that the Z80 microprocessor can use, but the wiring of the Spectrum is such that only a very few are available

There is a fairly comprehensive set of IN and OUT instructions but you are unlikely to need them all, unless you are an experienced machine code programmer, in which case, why are you reading this?

Let's begin by looking at the instruction IN, which can be thought of as the counterpart of PEEK Both these instructions read a 16 bit address, an Input port address for IN and a memory address for PEEK They both return an 8 bit number

Listing 1 uses the instruction IN A,(C) to read the keyboard This looks at the input port addressed by the current value of the BC register pair and copies the number at this port into the A register Fig 1 shows the keyboard layout

In all cases, the low byte of the port address i e the value of C, is 254 The value of the high byte (B) determines which half row of the keys is read For example, if B is 251 and C is 254, IN A,(C) will scan keys QWERT and return with bits 0 to 4 of the A register SET or RESET, depending on which of the five keys are depressed If a key is pressed, it *resets* its corresponding bit, otherwise that bit is *set* So if we test bit 0 of the A register, a *set* bit means the Q key was not pressed, but a *reset* bit means it was pressed

Listing 1 provides a routine which simulates the mechanical Etch-a-Sketch toy (Our 3 year old loves this one!) Load the code starting at address 30000 using an assembler or the loader program given in the first article

This example uses the ROM routine at 8933 to plot a point which can be moved by keys 5,6,7 and 8 The x value is held in the E register and the y value in the D register while the keyboard is being checked The co-ordinates are then transferred to the BC registers for the ROM routine After that, the HALT instruction is used to

Port Address High Byte	Bit 0	Bit 1	Bit 2	Bit 3	Bit 4	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Port Address High Byte
247	1	2	3	4	5	6	7	8	9	0	239
251	Q	W	E	R	T	Y	U	I	O	P	223
253	A	S	D	F	G	H	J	K	L	ENTER	191
254	CAP SHIFT	Z	X	C	V	B	N	M	SYMBOL SHIFT	SPACE	127

The Port Address Low Byte is 254 for all keys

Fig 1 Spectrum Keyboard Input Port Addresses

slow the routine down! It causes a delay of 1/50th second each time it is called within the DJNZ loop

Run the routine with RAND USR 30000 and sketch away

The first IN instruction checks the Y or RETURN key. Press this when you have finished sketching to return to BASIC

Alternative instructions which could be used are

IN A,(n)
IN H,(C)
IN L,(C)
IN B,(C)
IN C,(C)
IN D,(C)
IN E,(C)

IN A,(n) requires that the high byte of the port address is already in the A register and the low byte (254) is the value of n. The bits of the A register can then be checked. The remaining instructions operate like IN A,(C) but with the port value returned to one of the other registers, H,L,B etc.

The IN instruction is also used to read information from a storage device such as cassette, microdrive, etc. If you want to do this from machine code, you would be well advised to use the ROM routines rather than write your own code.

This is also true for the OUT instruction which is used to SAVE information, drive the (loud?) speaker and produce the screen. It can be thought of as the counterpart of POKE.

The simplest example of an OUT instruction is to change the BORDER colour. Key BORDER 7 ENTER to produce a white BORDER and poke the code of Listing 2 into address 30000 onwards. Remember to CLEAR 29999 first. Run the code with RAND USR 30000 and you will go green at the edges! The border will revert to its previous colour when you next use a BASIC command as the appropriate systems variable has not been changed. The same range of OUT instructions is available as for IN.

I said earlier that the OUT instruction drives the speaker. It is quite possible to write your own routines using OUT instructions. Listing 3 shows a routine equivalent to BEEP 5,0. A pitch value is put into the HL register pair and a duration value goes into DE. To get the note, we simply call the ROM routine at address 949 and this does all the work for you.

I used Basic Listing 4 to find the values of HL and DE needed for the ROM routine. RUN this program and key in the values of the pitch and duration that you would use in a BASIC BEEP command. The program will calculate the corresponding values for HL and DE.

Finally, run the code of Listing 5 with RAND USR 30000 to play a short melody using machine code. Note that in this routine, the bytes following label L2 are arranged to be read into the E,D,L and H registers, ready for the ROM call. As you can see, machine code can be irksome enough without re-inventing the wheel! You will usually do better to use existing ROM routines.

The tune leads us nicely into the next article in the series where we will look at the powerful block move instructions and a scrolling starscope

Listing 1

```
30000        LD   A,2          62
                                2
30002        CALL 5633         205
                                1
                                22
30005        LD   DE,0         17
                                0
                                0
30008 L1     LD   BC,57342     1
                                254
                                223
30011        IN   A,(C)        237
                                120
30013        BIT  4,A          203
                                103
30015        RET  Z            200
30016        LD   BC,61438     1
                                254
                                239
30019        IN   A,(C)        237
                                120
30021        BIT  4,A          203
                                103
30023        JR   NZ,L2        32
                                1
30025        DEC  D            21
30026 L2     BIT  3,A          203
                                95
30028        JR   NZ,L3        32
                                1
30030        INC  D            20
30031 L3     BIT  2,A          203
                                87
30033        JR   NZ,L4        32
                                1
30035        INC  E            28
30036 L4     LD   BC,63486     1
                                254
                                247
30039        IN   A,(C)        237
                                120
30041        BIT  4,A          203
                                103
30043        JR   NZ,L5        32
                                1
30045        DEC  E            29
30046 L5     LD   A,176        62
                                176
30048        CP   D            186
30049        JR   NZ,L6        32
                                2
30051        LD   D,0          22
                                0
30053 L6     LD   A,255        62
                                255
30055        CP   D            186
30056        JR   NZ,L7        32
                                2
30058        LD   D,175        22
                                175
30060 L7     PUSH DE           213
30061        PUSH DE           213
30062        POP  BC           193
30063        CALL 8933         205
                                229
                                34
30066        POP  DE           209
30067        LD   B,5          6
                                5
30069 L8     HALT              118
30070        DJNZ L8           16
```

```
                                253
30072      JR    L1               24
                                190
```

Listing 2

```
30000      LD    A,4              62
                                  4
30002      OUT   (254),A          211
                                  254
30004      RET                    201
```

Listing 3

```
30000      LD    DE,130           17
                                  130
                                  0
30003      LD    HL,1646          33
                                  110
                                  6
30006      CALL  949              205
                                  181
                                  3
30009      RET                    201
```

Listing 4

```
   1 REM routine to calculate
the values of DE & HL prior to
calling the BEEP routine at 949.
Pitch & duration are the numbers
entered in BASIC BEEP statements
 100 INPUT "Duration? ";d
 110 PRINT "Duration= ";d,
 120 INPUT "Pitch? ";p
 130 PRINT "Pitch= ";p
 140 LET frequency=261.63*2^(p/1
2)
 150 LET de=INT (frequency*d): L
ET hl=INT (437500/INT frequency-
30.125)
 160 LET d=INT (de/256): LET e=d
e-d*256: LET h=INT (hl/256): LET
 l=hl-h*256
 170 PRINT "DE= ";de,"HL= ";hl,"
E= ";e;TAB 8;"D= ";d;TAB 17;"L=
";l;TAB 26;"H= ";h: PRINT
 180 GO TO 100
```

Listing 5

```
30000      LD    BC,7             1
                                  7
                                  0
30003      LD    HL,L2            33
                                  74
                                  117
30006 L1   PUSH  BC               197
30007      LD    E,(HL)           94
3000B      INC   HL               35
30009      LD    D,(HL)           86
30010      INC   HL               35
30011      LD    C,(HL)           78
30012      INC   HL               35
30013      LD    B,(HL)           70
30014      INC   HL               35
30015      PUSH  HL               229
30016      PUSH  BC               197
30017      POP   HL               225
3001B      CALL  949              205
                                  181
                                  3
30021      POP   HL               225
30022      POP   BC               193
30023      DJNZ  L1               16
                                  237
30025      RET                    201
30026 L2   DEFB  65               65
30027      DEFB  0                0
3002B      DEFB  110              110
30029      DEFB  6                6
30030      DEFB  65               65
30031      DEFB  0                0
30032      DEFB  110              110
30033      DEFB  6                6
30034      DEFB  9B               9B
30035      DEFB  0                0
30036      DEFB  61               61
30037      DEFB  4                4
3003B      DEFB  9B               9B
30039      DEFB  0                0
30040      DEFB  61               61
30041      DEFB  4                4
30042      DEFB  110              110
30043      DEFB  0                0
30044      DEFB  196              196
30045      DEFB  3                3
30046      DEFB  110              110
30047      DEFB  0                0
3004B      DEFB  196              196
30049      DEFB  3                3
30050      DEFB  196              196
30051      DEFB  0                0
30052      DEFB  61               61
30053      DEFB  4                4
```

BRIGHT SPRITES

It's time to get those sprites moving in the second part of our C64 programming series by Andrew Clarke

Before we get into the swing of moving your sprites, how did you get on with the teaser I set last time? Your task was to position sprites 0, 2 and 5 on screen, colour them all yellow and make them all access sprite block 199. Program one gives an answer, although some of the values in the position registers may not be the same as yours. As long as you can see three sprites and they are all yellow and look the same you have done well.

Program one

```
1 REM ** (ANSWER TO  **
2 REM ** HOMEWORK)   **
10 V=53248:PRINT"
11 REM *** SWITCH ON SPRITES
12 POKEV+21,37
13 REM *** MAKE SPRITES YELLOW
14 POKEV+39,7:POKEV+41,7:POKEV+44,7
15 REM *** SET Y POSITIONS
16 POKEV+1,128:POKEV+3,128:POKEV+11,128
17 REM *** SET X POSITIONS
18 POKEV,70:POKEV+4,120:POKEV+10,170
19 REM *** SET SPRITE POINTERS TO 199
20 POKE2040,199:POKE2042,199:POKE2045,199
```

This week I want to deal with moving your sprite on screen. In fact "sprite" is an excellent word for conjuring up the idea of something moving swiftly.

One of the easiest ways to achieve movement is by using a simple FOR/NEXT loop. Firstly get the sprite on screen with V=53248 and press RETURN. Then type POKEV+21,1:POKE V+39,7:POKEV,50:POKEV+1 ,135:POKE2040,199 and press RETURN again.

It would help if you have the sprite definition program from last week as this will at least give you something to look at.

To move the sprite using the FOR/NEXT loop just type in the following:

```
FOR T+50 TO 255:POKE V,T:
NEXT
```

When you press RETURN the sprite will fly across the screen from location 50 on the X axis to location 255 passing through all the other locations in between.

To understand how this works imagine the sprite was moving much more slowly. First it starts at 50, moves one to 51. Then it goes on to 52 and through all the numbers up until 255 where it finally stops. Change the 50 in the instruction to a zero and press RETURN again.

This time the sprite comes from off the screen. You can make it start from any number between 0 and 254. By changing the value 255 you can make it stop anywhere too — providing that the figure on the right is *bigger* than that on the left.

To move in the opposite direction use STEP-1 after the FOR, like this:

```
FOR T=255 TO 50 STEP -1:
POKE V,T:NEXT
```

Now the sprite is starting at location 255 and finishing at location 50, a reversal of the previous instruction. To increase the speed change the -1 to -5 now press RETURN and it will fairly zoom across the screen.

In a similar way you can increase the speed of the sprite travelling the other way by typing the following:

```
FOR T=50 TO 250 STEP 5:
POKE V,T:NEXT
```

and pressing RETURN.

You can make it go slower, if you wish, by using decimal steps. Change the value behind the STEP command to .5 or .1 and watch the difference.

Of course there is no X location numbered 50.1 or 50.9. The location registers round up the figures so that 50.1 and 50.9 are, to the computer, location 51.

The speed difference is caused by the FOR/NEXT loop counting from 50.1 to 51. Whilst this is happening the value counts as 51, so the sprite does not move until it reaches 51.1 (52 when rounded up).

This continues until the value is 254.9 and then ends at 255.

So now we can move the sprite left to right and right to left. What about up and down?

To achieve this replace the POKE V,T instructions in the NEXT/FOR loop to POKE V+1,T. What do you see?

Vertical movement

Diagonal movement is also possible. But it cannot be achieved using two FOR/NEXT loops — one for the X value and one for the Y. The computer simply cannot handle two loops running together.

Instead we use just one FOR/NEXT loop for the X value whilst we increment the Y value by, in this example, one.

Program two demonstrates how to do this.

Program two

```
 1 REM ** DIAGONAL      **
 2 REM ** MOVEMENT      **
 10 V=53248:PRINT"[CLEAR]"
 12 POKEV+21,1:POKEV+39,7:POKE2040,199
 13 REM *** ZERO Y VALUE
 14 Y=0
 15 REM *** X FOR....NEXT LOOP
 16 FORX=0TO255
 17 REM *** POKE IN VALUES
 18 POKEV,X:POKEV+1,Y
 19 REM *** INCREASE Y VALUE
 20 Y=Y+1
 21 REM *** CONTINUE LOOP
 22 NEXT
 23 REM *** Y VALUE = 255
 24 Y=255
 25 REM *** X FOR....NEXT LOOP
 26 FORX=255TO0STEP-1
 27 REM *** POKE IN VALUES
 28 POKEV,X:POKEV+1,Y
 29 REM *** DECREASE Y VALUE
 30 Y=Y-1
 31 REM *** CONTINUE LOOP
 32 NEXT
 34 GOTO14
```

Practice trying to move in the other diagonals now.

The most interesting way of moving your sprites is by using player input from the joystick or keys. The trouble with this is that the input may not be what you were expecting and therefore you may not have included limits in the program for the sprites, that is restricting them either to an area on screen or to the available area in which sprites can move.

If your program has no IF/THEN statements to restrict your sprites you may find it keeps reporting an ILLEGAL QUANTITY ERROR IN (line number).

The next program (Program three) uses the screen limits within which to contain the sprites. It's major purpose, though, is to show how sprite movement is achieved by using the keys — it can be adapted for a joystick very easily.

It works without FOR/-NEXT loops but instead increases or decreases the Y and X values when the keys shown below are pressed —

Cursor right — Right
Cursor down — Left
Key "Z" — Down
Key "X" — Up

The keys "H", "J", "K", and "L" will move it diagonally. When these keys are used both the X and Y values are altered. To make it easier to understand you are given a read out of the X and Y values at the top left of the screen.

One of the limits used here is the highest X location, 255. Of course, as I showed last time, POKEing V+16 with the appropriate value will place the sprite into the far right X position. Unfortunately it has to be achieved smoothly in a game and this can be tricky.

Even in commercial programs a sprite will flicker when it crosses this "X Line" — unless the programmer has taken great care to make sure that he gets it right.

I'll try to explain how it occurs. When the sprite reaches the limit (255) the V+16 register has to be POKEd to allow it to go any further. When this occurs the sprite switches to the right side of the screen. Unfortunately, the X value is still 255 — which on the Right X position is not on screen. Until this value is changed to zero — the starting point — you just won't be able to see it!

Machine code will make the switch so quickly that it can deceive the eye. But in, slow BASIC you need a one line routine that will do it as speedily as possible. Program four is similar to the last one except now it allows the sprite to go over the entire screen area.

The variable MB is zero when the sprite is in the normal screen area and it equals one when it crosses the "X Line".

All the extra lines do is switch the sprite over the line and recalculate the new X value. It is better if it is all done on the same program as this saves time and reduces the severity of the flicker.

This may look a little daunting for the beginner but you can get around it by limiting your sprite characters to the left side of the line. Use the other side for scores etc — remember text can be placed anywhere on screen.

Several commercial games unashamedly use this method and it can save a lot of programming, especially where two or more sprites continue to go back and fro over the line. It isn't impossible — you only need to expand on the information given here and with practice you will have all eight sprites flying everywhere!

For homework this week write a short program making sprite zero move horizontally whilst sprite one moves vertically. It is very much easier than it first appears! More next time with multi-colour, expansion and priorities.

Program three

```
 1 REM ** MOVEMENT FROM **
 2 REM ** KEYBOARD INPUT**
 10 V=53248:PRINT"[CLEAR]"
 12 POKEV+21,1:POKEV+39,7:POKE2040,199
 14 X=120:Y=120
 16 GETA$:IFA$=""THEN16
 17 REM **** GET INPUT AND ACT ON IT
 18 IFA$="[RIGHT]"THENX=X+1
 20 IFA$="[DOWN]"THENX=X-1
 22 IFA$="Z"THENY=Y+1
 24 IFA$="X"THENY=Y-1
 26 IFA$="H"THENX=X-1:Y=Y-1
 28 IFA$="J"THENX=X-1:Y=Y+1
 30 IFA$="K"THENX=X+1:Y=Y-1
 32 IFA$="L"THENX=X+1:Y=Y+1
 33 REM **** CHECK X,Y LIMITS
 34 IFX>255THENX=255
 36 IFX<30THENX=30
 38 IFY>230TNENY=230
 40 IFY<50THENY=50
 41 REM **** PRINT X,Y VALUES
 42 PRINT"[CLEAR][DOWN][DOWN][RIGHT][RIGHT][RIGHT]X=";X
 44 PRINT"[DOWN][RIGHT][RIGHT][RIGHT]Y=";Y
 46 POKEV,X:POKEV+1,Y
 48 GOTO16
```

Program four

```
 1 REM ** MOVEMENT FROM **
 2 REM ** KEYBOARD INPUT**
 3 REM ** INC  FAR X POS**
 10 V=53248:PRINT"[CLEAR]"
 12 POKEV+21,1:POKEV+39,7:POKE2040,199
 14 X=120:Y=120:MB=0
 16 GETA$:IFA$=""THEN16
 18 IFA$="[RIGHT]"THENX=X+1
 20 IFA$="[DOWN]"THENX=X-1
 22 IFA$="Z"THENY=Y+1
 24 IFA$="X"THENY=Y-1
 26 IFA$="H"THENX=X-1:Y=Y-1
 28 IFA$="J"THENX=X-1:Y=Y+1
 30 IFA$="K"THENX=X+1:Y=Y-1
 32 IFA$="L"THENX=X+1:Y=Y+1
 35 REM *** SPECIAL ROUTINE TO SWITCH TO              FAR X POSITION
 34 IFMB=0ANDX>255THENX=X-255:POKEV+16,(PEEK(V+16)+1):MB=1:POKEV,X
 36 IFMB=0ANDX<30THENX=30
 37 REM *** SPECIAL ROUTINE TO SWITCH                 FROM FAR X POSITION
 38 IFMB=1ANDX<0THENX=X+255:POKEV+16,(PEEK(V+16)-1):MB=0:POKEV,X
 40 IFAB=1ANDX>64THENX=64
 42 IFY>230THENY=230
 44 IFY<50THENY=50
 46 PRINT"[CLEAR][DOWN][DOWN][RIGHT][RIGHT][RIGHT]X=";X
 48 PRINT"[DOWN][RIGHT][RIGHT][RIGHT]Y=";Y
 50 POKEV,X:POKEV+1,Y
 52 GOTO16
```

RON COMPLEX

The story so far. After 20 years on ice Ron Complex has returned safely to room temperature to face his biggest challenge yet...

"Cool it Complex Zibowitz get this man a raincoat with a turned up collar and a battered trilby hat — and I want them yesterday"

An executive leapt out of his seat and scuttled out the door "And make sure the trilby's good and battered," shouted Ron after the receding suit, "I just can't think straight with a rigged hatband"

"I know the feeling Complex, but let's get down to business," said Harvey J Murko, head of Murkotronic Computers Inc, a company so powerful that its hard and software tentacles extended into virtually every home across the globe

"Gentlemen your absence would be appreciated," murmured Murko The executives stampeded and within a few seconds Murko and Ron were alone in the boardroom

Murko walked over to the window and looked out over the London skyline After a moments silence he said, "Complex, do you know what bugs are?"

Ron flinched He'd been expecting some tough questions but this was a cinch "Sure Murko they're little creepy crawly things that crunch when you step on them Next question"

Murko spun round, "Wrong Complex, totally totally wrong Bugs are the greatest threat to civilisation the world has even seen"

Ron's inbuilt radar for approaching frutcakes was blipping throughout his brain "Well, okay Murko so maybe woodlice give you the shivers but you can get treatment"

Murko shook his head sadly, "You just don't understand the magnitude of the problem Bugs are programming errors, tiny flaws that in the old days gave thousands of people hours of endless pleasure" A tear appeared in Murko's left eye, "Why I remember how much fun it used to be to track down an itty-bitty bug and annihilate it but that's all changed now"

Murko produced a monogrammed handkerchief and dried his eyes

"A few years ago Mega-bugs started creeping into the system Foul-ups that were way beyond any acceptable human error And now every data base in the world is infested with them We've tried everything to exterminate them but they just keep coming back bigger than before"

"So what do you want me to do", asked Ron, "buy a butterfly net and a jam jar?"

"No I want you to find out who is responsible for this sabotage We've got reason to believe there's an organisation that's determined to create havoc and destroy the computer industry I want you to infiltrate that organisation and erase it from the face of the earth"

"Fine Murko and what would you like me to do after lunch?"

"No jokes Complex, we've already lost two of our top investigators on this case"

"And you want me to be full guy number three?"

"Look Complex, we need a fresh angle We're desperate Will you take the case?"

"Okay Murko, I'll find the bughatchers for you, but I don't work for peanuts My terms are £50 a day plus expenses and the odd bag of cashews Agreed?"

Murko nodded "Where do I start?" asked Ron

"There's a pub where all the underworld computer buffs go, it's called the Meatball and Micro"

Next Week: Part 3 Software in a basket

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The Mastertronic User Club

Tronix

TRIPLE-HEADER

impersonate J R, bomb yourself a landing strip and get those birds in your sights in this triple-header of games for the C16 by David Jaques

Three games to test your skills as an oil magnate, ariel demolition expert and marksman

In Mines you can don your stetson and take responsibility for running an oil field for a decade The object is to protect your black gold against the ravages of winter and oil rustlers who'll go to any lengths to syphon off your crude If you go bankrupt or make five mistakes you are instantly demoted

Lander presents a poser for the plane pilot You are flying over a built up area and there is no place to land. The solution is to bomb a runway for yourself Once the houses are flattened you find yourself airborne again with an even trickier clearance problem below you

You are the assissin in the aviary in Bird Strike but don't think our feathered friends are just going to flap around helplessly — in this game they fire back

Mines

How it works

10-30	set up
140-500	main loop
510-550	gone bust
560-650	end
660-890	instructions
900-930	bad winter
940-970	thieves
980-990	five mistakes

Variables

Mines number of mines
Year present year number
M money
OB amount of oil collected
B bad winter
D thieves
Z number of mistakes
Sell selling/buying price of mines
A,N,X general use

Lander
How it works

10-170 running area
180-330 set up
340-540 play game
550-680 end
690-870 instructions
880-1040 tune
1050-1100 high score
1100-1120 mistake area

Variables

win win
AC level
G,H bird position
Z poke for bird
D sound/score
HS high score
HS$ high score holder

Bird Strike
How it works

10-190 set up
190-400 main loop
410-570 fire
580-700 alien fire
710-760 high score
770-840 new level
850 970 screen set up
980-1190 instructions

Variables

HS high score
H$ high score holder
V alien fire
I invader flight position
P new invader
R direction of invader
G,H old position of invader
1X,1Y new position of invader
I1$,I2$,I3$ invader position
D,E old base position
X,Y new base position
D$ base
N general use
Z how many hits
S score

```
10 REM ********************************
20 REM ********* LANDER          *********
30 REM ********* BY D.A.JACUES *********
40 REM ********* JULY 1985       *********
50 REM ********************************
60 HS=100:HS$="C 16"
70 TRAP 1110
80 VOL 8
90 G=74:H=85
100 COLOR 0,1:COLOR1,8
110 GOSUB 680
120 GOSUB 180
130 GOSUB 870
140 GOSUB 330
150 IF WIN=1 THEN WIN=0:GOTO 120
160 GOSUB 540
170 GOTO 120
180 REM ******************************
190 REM        SET UP
200 REM ******************************
210 WIN=FALSE
220 BL=0:B=0
230 SCNCLR
240 COLOR1,16
250 FORN=4032 TO 4071:POKEN,102:NEXT N
260 COLOR1,8
270 FORZ=4031 TO 3711-AC STEP-1
280 X=INT(RND(1)*(3+SC))+1
290 IF PEEK(Z+40)<>32 AND X>1 THEN POKEZ,219
300 NEXT Z
310 PRINT"  SCREEN: ";SC+1;TAB(12);" SCORE: ";D
320 RETURN
330 REM ******************************
340 REM            PLAY
350 REM ******************************
360 Z=3192
370 POKE Z,G:POKEZ+1,H:POKE Z-1,32
380 IF G=74 THEN G=85:H=73:GOTO 400
390 IF G=85 THEN G=74:H=75
400 IF B=1 TNEN GOTO 458
410 GET K$
420 IF JOY(1)<100 AND K$<>" " THEN500
430 C=Z+40
440 B=1
450 POKE C-40,32:POKE C,83:IF PEEK(C+40)=219 THENSOUND 1,M,10:SOUND2,M+80,10:D=D
+10
460 N=D:IF D>900 THEN LET M=D/10
470 C=C+40:IFC>4031 THEN B=0
480 PRINT"  SCREEN: ":SC+1;TAB(12);" SCORE: ";D
490 IF B=0 THEN POKE C-40,32
500 Z=Z+1:IF PEEK(Z+2)=219 THEN GOTO 530
510 IF Z<>4033 THEN GOTO 370
```

```
520 SC=SC+1:AC=AC+40:WIN=1
530 RETURN
540 REM ******************************
550 REM                END
560 REM ******************************
570 SC=0
580 SCNCLR
590 IF D>HS THEN GOSUB 1040
600 SCNCLR
610 PRINT"YOU SCORED: ";D
620 PRINT"the high score is ";hs
630 PRINT"b y ";hs$
640 PRINT"press  r  for another go"
650 GETKEY A$:IF A$<>"R" THEN GOTO 650
660 D=0
670 RETURN
680 REM ******************************
690 REM      INSTRUCTIONS
700 REM ******************************
710 SCNCLR
720 PRINT"bomber"
730 PRINT"instructions"
740 PRINT"your mission is to bomb the city"
750 PRINT"to provide yourself with a suitable"
760 PRINT"landing site.should you achieve"
770 PRINT"this,a more difficult screen will"
780 PRINT"be printed"
790 PRINT"press space to continue"
800 GETKEY A$:IF A$<>" " THEN GOTO 800
810 SCNCLR
820 PRINT"press space to fire,":print"or"
830 PRINT"FIRE ON JOYSTICK IN PORT ONE"
840 PRINT"press space"
850 GETKEY A$:IF A$<>" " THEN 850
860 RETURN
870 REM ******************************
880 REM              TUNE
890 REM ******************************
900 RESTORE 910
910 DATA 810,169,810,345,834,453,854,169,854,345,864,453
920 DATA 881,169,854,169,810,169,881,345,854,345,810,345
930 DATA 881,169,854,169,810,169,881,345,854,345,810,345
940 DATA 834,453,854,453,864,453,834,383,834,345,934,262
950 DATA 810,169,810,345,834,453,854,169,854,345,864,453
960 DATA 881,169,854,169,810,169,881,345,854,345,810,345
970 DATA 881,169,881,345,854,453,881,169,864,169,854,345
980 DATA 834,453,864,453,834,453,810,169,810,169,810,169
990 FORN=1 TO 96 STEP 2
1000 READ T:READ R
1010 SOUND 1,T,10:SOUND2,R,10
1020 NEXT N
1030 RETURN
1040 REM ******************************
1050 REM            HIGH SCORE
1060 REM ****************************** 6010 SCNCLR
1070 PRINT"you have got a new high score."
1080 PRINT"please input your name"
1090 INPUT"";HS$
1100 RETURN
1110 SCNCLR
1120 PRINT"OK BYE"
```

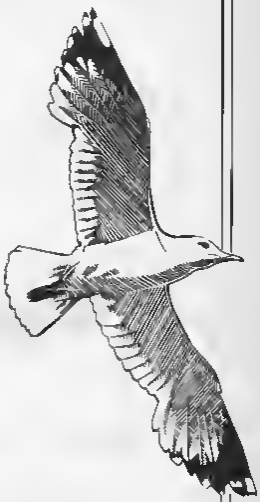
```
10 REM ********************************
20 REM ********** MINES          ********
30 REM ********** BY D.A.JAQUES ********
40 REM ********** JULY 1985      ********
50 REM ********************************
```

```
60 Z=0
70 VOL 8
80 COLOR0,1:COLOR4,1
90 GOSUB 660
100 MINES=2
110 YEAR=0
120 M=0
130 OIL=(INT(RND(1)*20)+130)*MINES
140 SCNCLR
150 IF B=4 THEN GOSUB900
160 IF D=1 THEN GOSUB940
170 M=M+(OIL*10)
180 SELL=(INT(RND(1)*10)+180)*10
190 YEAR=YEAR+1
200 PRINT"THIS IS YEAR NUMBER";YEAR;"OF YOUR CONTROL."
210 PRINT"YOU HAVE";MINES;"MINES."
220 PRINT"THE SELLING PRICE OF EACH MINE THIS YEARIS #";SELL
230 PRINT"YOU HAD A YIELD OF";OIL;"TONNES OF OIL  THIS YEAR."
240 PRINT"WHEN WE SOLD THIS ON THE MARKET IT      BROUGHT YOU #";M
250 PRINT"-----------------------------------------"
260 PRINT"HOW MANY MINES DO YOU WANT TO SELL";:INPUT A
270 IF A>MINES THEN PRINT"";:SOUND 1,800,10:Z=Z+1:GOTO 260
280 M=M+(A*SELL)
290 MINES=MINES-A
300 PRINT"YOU NOW HAVE #";M
310 PRINT"YOU NOW HAVE";MINES;"MINES"
320 IF A=0 THEN GOTO 340
330 GOTO 400
340 PRINT"HOW MANY MINES DO YOU WANT TO BUY";:INPUT A
350 IF A*SELL>M THEN PRINT"";:SOUND 1,800,10:Z=Z+1:GOTO 340
360 M=M-(A*SELL)
370 PRINT"YOU NOW HAVE #";M
380 MINES=MINES+A
390 PRINT"YOU NOW HAVE";MINES;"MINES"
NOW MUCH DO YOU WANT TO SPEND ON THE    MINE BORDERS TO STOP THIEVES";
410 INPUTA
420 IF A>M THEN PRINT"          ":PRINT"";
430 IF A>M THEN SOUND 1,800,10:Z=Z+1:GOTO 400
440 M=M-A
450 D=INT(RND(1)*7)
460 D=INT(RND(1)*4):IF D=1 AND A<M/2 ORA<500 THEN D=1:ELSE D=0
470 IF YEAR=10 TNEN 560
480 IF Z>4 THEN GOTO 980
490 IF M<10 THEN GOTO 510
500 GOTO 130
510 PRINT"YOU HAVE GOME BUST !"
520 FOR N=900 TO 100 STEP -10
530 SOUND 1,N,1:SOUND2,N+100,1
540 NEXT N
550 END
560 PRINT"WELL DONE YOU HAVE LASTED TEN YEARS"
570 DATA 739,810,739,739,704,685,704,739,685,770,685,685,643,596,571,643
580 DATA 596,643,685,770,739,685,739,739
590 DATA643,739,643,739,770,798,810,798,798
600 RESTORE 570
610 FOR N=1 TO 33
620 READ X
630 SOUND1,X,15
640 NEXT N
650 END
660 COLOR1,2
670 SCNCLR
680 A$="THE IDEA OF THIS GAME IS TO RUN AN OIL  FIELD FOR A TEN YEAR PERIOD."
690 FOR N=1 TO LEN(A$)
700 B$=MID$(A$,N,1)
710 PRINT B$;
720 SOUND 1,670,3:SOUND1,0,3
730 NEXT
```

```
740 PRINT" "
750 A$="YOU HAVE THE CHANCE TO BUY AND SELL     MINES,AND YOU HAVE TO PROTECT "
760 FOR N=1 TO LEN(A$)
770 B$=MID$(A$,N,1)
780 PRINT B$;
790 SOUND 1,670,3:SOUND1,0,3
800 NEXT
810 A$="THE MINES AGAINST THIEVES IF YOU MAKE 5 MISTAKES THEN YOU DIE.GOOD LUCK"
820 FOR N=1 TO LEN(A$)
830 B$=MID$(A$,N,1)
840 PRINT B$;
850 SOUND 1,670,3:SOUND1,0,3
860 NEXT
870 PRINT" "
880 FORN=1TO 1000:NEXT N
890 RETURN
900 PRINT"WE HAD A BAD WINTER AND WE ONLY GOT HALFTHE YIELD WE SHOULD HAVE!"
910 OIL=OIL/2
920 FORN=1TO3000:NEXT N
930 RETURN
940 PRINT"THE THIEVES GOT IN AND HAVE STOLEN HALF THE YEARS YIELD!"
950 OIL=OIL/2
960 FORN=1 TO 3000:NEXT N
970 RETURN
980 PRINT"YOU HAVE MADE 5 MISTAKES"
990 GOTO 520
```

```
10 REM ********************************
20 REM ******* BIRD STRIKE    ***********
30 REM ******* BY D.A.JAQUES ***********
40 REM ******* JULY 1985     ***********
50 REM ********************************
60 TRAP 80
70 GOTO 90
80 PRINT "THERE IS AN ERROR":END
90 VOL 8
100 HS=0:H$="THE C16"
110 V=10
120 D$="UIY":I1$="USI":I2$="JOK":I3$="CQC"
130 SCNCLR:COLOR0,1:COLOR4,1
140 I=1
150 V=10
160 GOSUB 980
170 P=1
180 GOSUB 850
190 R=INT(RND(1)*8)+1
200 G=IX:H=IY
210 IF R=1 OR R=5 AND IX>4 AND IY>6 THEN IX=IX-1:IY=IY-1
220 IF R=2 OR R=7 AND IX<36 AND IY>6 THEN IX=IX+1:IY=IY-1
230 IF R=3 OR R=6 AND IX>4 AND IY<16 THEN IX=IX-1:IY=IY+1
240 IF R=4 OR R=8 AND IX<36 AND IY<16 THEN IX=IX+1:IY=IY+1
250 IF I=1 OR I=2 THEN I=I+1:ELSE I=1
260 CHAR 1,G,H,"   "
270 IF I=1 THEN CHAR 1,IX,IY,I1$
280 IF I=2 THEN CHAR 1,IX,IY,I2$
290 IF I=3 THEN CHAR 1,IX,IY,I3$
300 D=X:E=Y
310 GET K$
320 IF K$="=" AND X<36 THEN X=X+1
330 IF K$="#" AND X>2 THEN X=X-1
340 Y=22
350 CHAR 1,D,E,"   "
360 CHAR 1,X,Y,D$
370 IF K$="Z" THEN GOSUB 410
380 IF INT(RND(1)*V)=1 THEN GOSUB 580
390 IF Z=>8 THEN GOSUB 770
400 GOTO 190
```

```
410 IF PEEK((3072+(IY*40)+X)+1)=32 THEN SOUND1,900,2:RETURN
420 CHAR 1,IX,IY,"&&&"
430 FORN=1TO9:SOUND1,N*100,1:NEXT N
440 CHAR 1,IX,IY," &&"
450 FORN=1TO9:SOUND1,N*100,1:NEXT N
460 CHAR 1,IX,IY," & "
470 FORN=1TO9:SOUND1,N*100,1:NEXT N
480 FORN=1TO9:SOUND1,N*100,1:NEXT N
490 CHAR 1,IX,IY,"   "
500 Z=Z+1
510 IF I=1 THEN S=S+50
520 IF I=2 THEN S=S+100
530 IF I=3 THEN S=S+150
540 SOUND 1,100,5
550 CHAR1,1,1,"SCORE:"+STR$(S):CHAR1,1,2,"HIGH-SCORE:"+STR$(HS)+"  BY:"+H$
560 IX=28:IY=10
570 RETURN
580 CHAR 1,IX+1,IY+2,"Z"
590 FOR N=1TO20
600 CHAR 1,IX+1,IY+2," "
610 IF PEEK(3952+IX+1)=32 THEN SOUND1,700,4:RETURN
620 SOUND 1,200,10
630 SCNCLR
640 PRINT "YOU ARE DEAD"
650 IF S>HS THEN GOSUB 710
660 PRINT "YOU SCORED:";STR$(S)
670 PRINT "THE HIGH SCORE IS:";STR$(HS);" BY ";H$
680 S=0
690 PRINT "DO YOU WANT TO PLAY AGAIN";:INPUT G$
700 IF LEFT$(G$,1)<>"Y"THEN END:ELSE GOTO 120
710 SCNCLR
720 PRINT"  W E L L   D O N E  "
730 PRINT"YOU GOT THE NEW HIGH SCORE.PLEASE INPUT YOUR NAME";
740 INPUT H$:IF LEN(H$)>20 THEN PRINT"";:GOTO 730
750 HS=S
760 RETURN
770 P=P+1
780 IF P=5 THEN P=1
790 V=V-2:IF V<4 THEN V=2
800 IF P=1 THEN I1$="USI":I2$="JOK":I3$="CQC"
810 IF P=2 THEN I1$="JCI":I2$="UCK":I3$="CCC"
820 IF P=3 THEN I1$="+S3":I2$="@S=":I3$="-O."
830 IF P=4 THEN I1$="OV;":I2$="LVP":I3$="CVC"
840 Z=0:RETURN
850 SCNCLR
860 X=18:Y=22:IX=10:IY=10
870 CHAR1,X,Y,D$:CHAR1,IX,IY,I1$
880 CHAR1,1,1,"SCORE:"+STR$(S):CHAR1,1,2,"HIGH-SCORE:"+STR$(HS)+"  BY:"+H$
890 DATA 854,810,854,818,854,739,854,810,854,810,854,739
900 DATA 881,854,864,834,854,810,834,798,834,798,739,739
```



```
910 DATA 864,834,854,810,834,798,818,854,810,881,810,854
920 DATA 854,810,854,810,854,739,854,810,854,810,854,739
930 DATA 881,854,864,834,854,810,834,798,834,798,739,739
940 DATA 864,739,854,739,834,798,810,810,810,596,810,596,810,596
950 RESTORE 890
960 FORN=1TO 37:READ A,B:SOUND1,A,10:SOUND2,B,10:NEXT N
970 RETURN
980 SCNCLR
990 PRINT"  E G B  A T T A C K  "
1000 PRINT""
1010 PRINT"THE IDEA OF THIS GAME IS TO ATTACK   "
1020 PRINT"THE FLYING INVADERS.THIS IS NOT AS   "
1030 PRINT"IT SOUNDS BECAUSE THEY ALSO FIRE BACK"
1040 PRINT"AT YOU.THERE ARE FOUR DIFFERENT LEVELS"
1050 PRINT".ON EACH LEVEL THEN INVADER HAS THREE"
1060 PRINT"DIFFERENT POSITIONS WHILST FLYING"
1070 PRINT".EACH ON IS A DIFFERNT COLOUR AND"
1080 PRINT"SCORES DIFFERENT POINTS."
1090 PRINT"        SCORES 50  PTS"
1100 PRINT"        SCORES 100 PTS"
1110 PRINT"        SCORES 150 PTS"
1120 PRINT""
1130 PRINT"THE KEYS ARE :-"
1140 PRINT" #  LEFT = RIGHT"
1150 PRINT"'Z' FIRE"
1160 PRINT"press the space bar"
1170 GETKEY K$
1180 IF K$<>" " THEN 1170
1190 RETURN
```

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R E B O O K S

Assembly

The book "Spectrum and Spectrum + Assembly Language Course" forms part of a series, and is written in such a way as to give a self paced beginners' course in Z80 Assembley Language Programming. It is a comprehensive and well graded book, moving as it does from the simple short programs with decimal numbers to complex programming with its use of hexadecimals. Answers to exercises appear at the end and Appendix six summarises the use of the assembler that accompanies the book, including how to SAVE and LOAD programs

Each term and instruction is explained simply with examples as well as appearing in the glossary at the book-end along with the excellent appendices that give the ZX80 instruction set, the effects of instructions on the flags, the effects of compares on the overflow, sign and carry flags, some built in ROM routines, and binary, BCD and hexadecimal notations

This course admirably teaches machine code programming in assembler but, as is so common with assembler language courses, it then leaves the programmer to work out how to use his newly acquired technical knowledge to achieve practical results for his programs

After years of being frightened of machine code Martin Thompson's book enabled me to key in the assembler language example programs which the assembler then changes into machine code and puts it into the correct place

The versatile Assembler program is well worth £10 on its own, so the package with book and Binary/hexadecimal/BCD tutor program is excellent value for money. **T.W.**

Price: £12 50

Publisher: Honeyfold

Address: Standfast Hse, Bath Place, High St Barnet, Herts

Phoenix Computer Crib Card

Fan-folded and clearly printed, this comprehensive crib card will be of inestimable value to the majority of Basic programmers If anything, there is rather too much information contained in the 11 pages (each clearly displayed though inadequately categorised)

Annoyingly, some of the most frequently used sets of information are not included, whilst two whole pages have been devoted to a list of Basic tokens These being the hexadecimal codes that the operating system translates your basic keywords into prior to interpreting them into binary machine code which are of limited use to most programmers

More useful, would have been a list of ASCII codes and —how can Mr Hook be forgiven for ignoring the keyboard key numbers, which are used in almost every program and are not the easiest things in the world to memorise?

The full list of error messages itself contains two errors! For WORD read WEND in both cases And while we are about it read GOTO in place of GOT in the section ambiguously entitled loop, decision and control

Undoubtedly this veritable mine of information represents excellent value for money and will save lots of wear and tear on your user manual But — could do better? **D.H.**

Price: £1 99

Publisher. Phoenix

Address. 14, Vernon Road, Bushey, Herts

Advanced Programming Techniques on the Amstrad CPC464

Bridging the yawning chasm between the simplicity of Basic and the complexity of machine code programming in a user friendly manner, is totally achieved in this exciting book by Keith Hook

Be forwarned by the title Unless you have already aquired a good knowledge of BASIC and some understanding of your computers operating system, it could prove to be more advanced than expected

Many subtle and complex insights into Amstrad's hidden capabilities are about to be revealed

Divided into nine chapters and two appendices, the first four chapters are devoted to a resumé of memory mapping, hexadecimal and binary notation and two's compliment arithmetic along with most other like tools of trade associated with machine code programming

Often dealt with superficially elsewhere, it is gratifying to find a lucid explanation of the various methods deployed in tailoring machine code routines into a basic program

Sprite creation and manipulation is effectuated in chapter eight Included is a full sprite loader program along with an enlightening demonstration routine Incidentally, both of these are written in BASIC so present no problem to the intermediate student, wanting to give a full head of steam to his Locomotive basic

An exceptionally clear typeface and the use of emphasised printing make for easy reading, sensibly priced **D.H.**

Price £7 95

Publisher Phoenix

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L E T T E R S

Trouble for hire

Great magazine, keep up the good work Just a warning to all those nice pees and that's it I have written to the hire club twice but received no answer

So if you join a hire club don't be a wally, just send money to cover the hire of one or two games and that way you won't get burnt too badly

Brian Devlin, Hunstanton

FOR EVERY
A PRIZE
LETTER PRINTED

Games and more games

I buy Home Computing Weekly regularly and I enjoy typing in games and I would like to see 2 or three games for each computer and I think some other people would agree with me.

I also think you should write more tips on games.

John Wallbank, Leyland, Lancs

Keep watching the Readers Page. We regularly feature tips on games there!

Chart entry

Can I take this opportunity of saying how much I like the new format of HCW One gripe however is that you do not as yet have a separate chart for the Amstrad Other magazines do this so surely these figures must be available?

Once again a great weekly magazine Please don't go the way of PCN

John Wright, Selston, Notts

We are looking into this suggestion and will let you know if it is possible soon.

Stand and deliver

I would like to thank Anirog for their excellent mail order service. I ordered the Covox Voicemaster from them and thought that I would have to sit back and wait for a couple of months for it to arrive. Thus I was surprised to have it delivered to me three days after writing off.

Perhaps if more mail order companies would take notice of Anirog's efficiency then more people would put their trust in this form of retail outlet.

May I congratulate you on your excellent magazine. It has up to date news columns, which is the main reason I buy it but I do think that listings take up much valuable editorial space.

Lastly a tip for anyone who has purchased the Voicemaster. The quality of digitalised speech can be improved by removing a delay loop in the VM2.I program. Simply type; FOR I = 50332 TO 50336 : POKE 1,234 : NEXT and use RATE 10 for the best effects.

Ian Fitter, Whiston, Merseyside

Whoops

Oh dear, the bugs are really nesting in this summer heat and appear to have thoroughly infected our program printing machinery

Scoot, the C64 program from Shane Parris, was only printed in one part, when there are actually two parts to the listing We are very sorry about this and do assure you that we have been quite liberal with the DDT in the hope that the insects concerned will have no further opportunity to cause problems

The program listing printed here should be typed in, checked and saved before the part which we printed in HCW 121

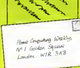
```
 POKE53280,0:POKE53281,0:PRINT"[CLEAR][HOME][YELLOW][DOWN][DOWN][DOWN][DOWN][DOWN][DO
WN][DOWN][DOWN][DOWN][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RI
GHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT]PLEASE WAIT"
1 PRINT [DOWN][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][RIGHT][illegible]
NOT STOP THE TAPE
[illegible]
 FORA=1TO46:READB:POKE50000+A,B:NEXT
 DATA167,40,162,24,173,87,167,4,157,88,160,6,177,87,133,87,20[illegible]
 DATA145,87,200,192,201,3[illegible],208,244,165,89,145,87,165,87,24,165,4[illegible],172
 DATA87,144,2,27[illegible],88,20[illegible],208,20[illegible],96

 [illegible]TO64*7-1:READB:POKE49152+C,B:NEXT
 DATA[illegible]
 DATA[illegible]
 DATA7,255,0,5,252,0,1,240[illegible]

 DATA[illegible]
 DATA16,117,17,20,87,17,245,117,17,69,101,17,54,85,17[illegible]
 DATA[illegible]255,128

 DATA[illegible]
 DATA[illegible]
 DATA[illegible]

 PRINT"[CLEAR][HOME]"
[illegible]
```



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LETTERS PAGE

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Error Trapping

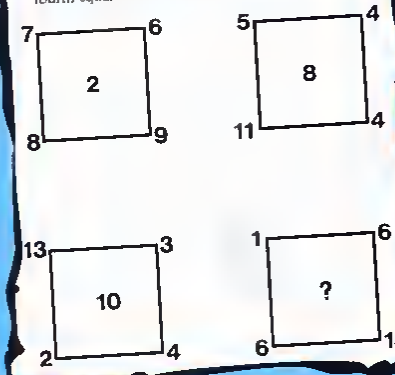
Typing in numerous data statements can damage your health, says Mr D Woods of St Helens, especially when the program doesn't do what the listing says it should and tired eyes have to scan masses of numbers for that typing error.

To save you all these problems you can reduce errors by recording the data statements on to a portable tape recorder at a speed to suit your typing. This reduces wear and tear on the stop button. At the beginning of the line say the line number and say "RETURN" at the end. This saves having to read, type and check the screen all at once, just by playing the tape. The recording takes a while but is well worth the effort, reducing errors and eye strain.

Another useful little hint from Mr Woods is to stick a brightly coloured piece of insulation tape on the comma key to make it easier to see and press. This will stop all that searching and pressing of the full stop by mistake.

Squared Away

Can you find the number which goes in the centre of the fourth square?



Helpline

Adrian Ward of 26 Central Drive, Sharebrook, near Mansfield, Notts, is having problems among the undead in Voodoo Castle for the C64.

"I've collected all the objects and put them in the room with the coffin but I don't know what to do now." Adrian adds, "How do I get the curse off the man?"

Help is at hand for Neil Luckham from Birmingham who wrote in HCW 119 pleading for assistance on how to "move two characters at the same time" on his TI.

David Halligan of 46 Ben Nevis Road, Birkenhead, Merseyside, writes: "After reading of Neil's plight I went to the dungeon (my bedroom) and switched on the metal box in the corner. Two hours passed, then shouts of joy were heard throughout the land and lo! I have concocted the program needed.

"Though it is not possible to move two characters at once it is possible to allow the characters to move themselves. David invites Neil to write to him so he can despatch the program forthwith.

Solution to last weeks puzzle

Three squares equal 3½ triangles. One circle equals 1 triangle.

Tip Offs

Richard Beard has sent in a few tips for TI owners.

On the Parsec Module, before starting the game the instruction "Press fire to start" appears. Instead of doing this, crash your space ship and the game will automatically start. Sometimes, depending on where you crash your ship on the planet surface, you can skip a few levels and go on to a harder part of the game.

And here's a tip for Spectrum owners from Mark Ryan of Corrandulla, Co Galway. Typing POKE 23609,255 will make the keys beep every time they are pressed. To retrieve the normal noise, type POKE 23609,0.

The joke's on you

HCW reader Steve Ireland has sent this joke to cheer up your day.

What do you call a fish under the sea bed?

A red herring.

Reader's review

Toughtrack

This game is in black and white but it is quite fast for a TI game. When it is first run through, it starts with black and white titles which can be a bit misleading. It then prints the track and it becomes very clear where the game gets its name from, there are some very tricky chicanes.

Another thing which you need to look out for is patches of oil. So far this may sound rather easy and boring, and it is a little tedious at first but once you have played it then it becomes more exciting. When you crash you skid around and you are told your score. You can then play a second game and your scores are added together.

The graphics aren't really up to much but the game is a good idea although very simple.

One thing that makes the game very difficult is that when you take your finger off a key the car continues to move in the same direction which makes it very tricky when you are trying to take a tight corner.

Price: £1.99

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READERS PAGE

"These days, my favourite things are in bits..."

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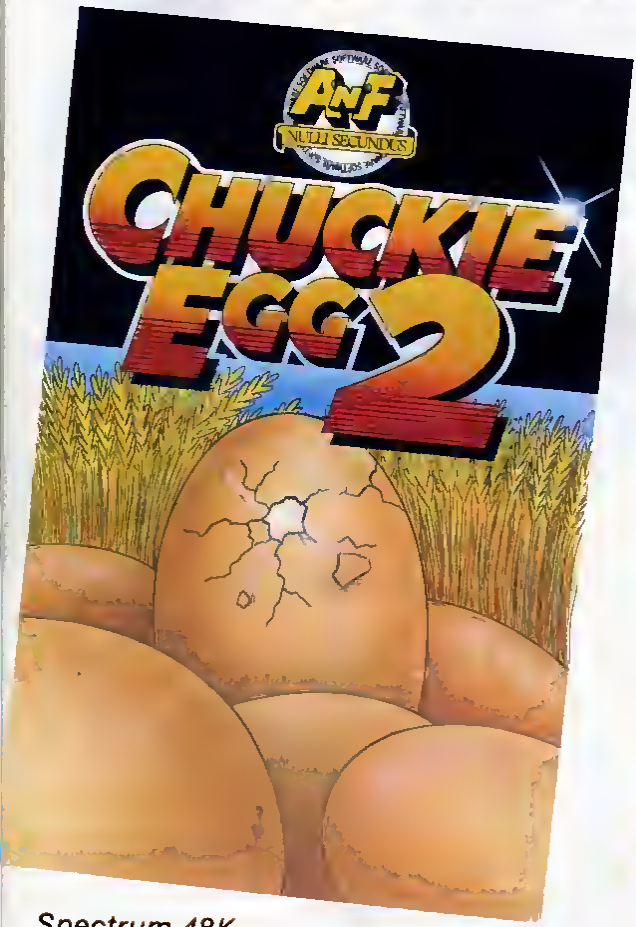

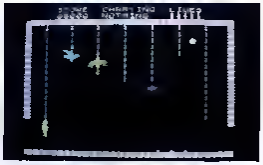

Our intrepid hero Hen House Harry" of "**Chuckie Egg**" fame has been called in to help a "**Chocolate Egg**" manufacturer sort out his automatic factory which has gone haywire. Harry using all the skills he acquired working in the Hen House must get the wheels of industry moving

Not only does Harry have to collect the ingredients to mix the eggs but he will also have to collect the pieces the toys that go inside the eggs.

As if all these problems were not enough there are a number of other items that Harry will need to find and use to be able to complete the task. Things like ladders, bits of girders, keys and many more.

Chuckie Egg 2 contains 120 screens, plenty of surprises, and it is a true Arcade/Adventure game *you don't just find things, you actually move them and use them.*

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